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**EOSDIS Core System Project**

**Release B.0 Toolkit 5.2 Version  
Description Document (VDD)  
for the ECS Project**

Version 1.00

April 1997

Hughes Information Technology Systems  
Upper Marlboro, Maryland

# **Release B.0 Toolkit 5.2 Version Description Document (VDD) for the ECS Project**

**Version 1.00**

**April 1997**

Prepared Under Contract NAS5-60000

## **SUBMITTED BY**

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## Preface

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This document accompanies the delivery of Release B.0 Toolkit 5.2, Version 1.00. It is not a formal deliverable and does not require Government approval; however, it has been placed under configuration control by the EOSDIS Core System (ECS) Science Data Processing Segment. Changes to this document shall be made by document change notice (DCN) or by complete revision.

This Toolkit version is directed at Earth Observing System (EOS) instrument data providers who will deliver code to the ECS Release B.0 Distributed Active Archive Centers (DAACs). It is an engineering upgrade to Toolkit 5.1.1, delivered in November 1996. The user calling interface of the current version is the same as that of Toolkit 5.1.1, except that several new functions have been added.

Any questions regarding distribution should be addressed to:

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# **1. Introduction**

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## **1.1 Identification of Document**

This document is a Version Description Document (VDD) prepared using NASA-STD-2100-91 as a guide. It is submitted as required for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS), contract number NAS5-60000.

## **1.2 Scope of Document**

This VDD specifies the delivery contents of the ECS Release B.0 Toolkit 5.2 Version 1.00 software and accompanying documentation.

## **1.3 Purpose and Objectives of Document**

The purpose of this VDD is to describe the contents of the delivery of Release B.0 Toolkit 5.2 Version 1.00. The document briefly describes all tools that incorporate the delivery, provides an inventory of the delivery, lists unresolved problems, and addresses special issues such as special operating instructions, system limitations, and disclaimer notices for public domain software used in the library.

## **1.4 Document Status and Schedule**

This Version Description Document for Release B.0 Toolkit 5.2 Version 1.00 is submitted as a final document. Any changes to Release B.0 Toolkit 5.2 Version 1.00 that require a subsequent version to be released will be described in a new Version Description Document.

## **1.5 Document Organization**

The format and contents of this document comply with NASA-DID-P500 and NASA-DID-999 as defined in NASA-STD-2100-91.

- Introduction — Introduces the VDD scope, purpose, objectives, status, schedule and document organization.
- Related Documentation — Provides a bibliography of reference documents for the VDD organized by parent and binding subsections.
- Product Description — Describes the general capabilities and product contents.
- Inventory — Tar file listings for Release B.0 Toolkit 5.2 source and test drivers, documentation, and archive tape.

- Non-conformance Status — Discusses known problems with Release B.0 Toolkit 5.2 Version 1.00 and lists Non-conformance Reports with open status.
- Appendices — Contain supplemental information such as: Build/installation instructions, special operating instructions, system limitations, user feedback procedures, public software disclaimer notices, and the test baseline configuration.

## **2. Related Documentation**

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### **2.1 Parent Documents**

The following documents are the parent from which this document's scope and content derive:

- |           |   |
|-----------|---|
| 423-42-01 | EOSDIS Core System Statement of Work- CN10  |
| 423-16-02 | Science Data Processing (SDP) Toolkit Requirements Specification<br>for the ECS Project |

### **2.2 Applicable Documents**

The following documents are directly applicable to this plan to the extent referenced herein. In the event of conflict between any of these documents and this plan, the plan shall take precedence.

- |                  |  |
|------------------|--|
| 170-TP-005-003   | HDF-EOS Library Users Guide for the ECS Project--Volume 1:<br>Overview and Examples    |
| 170-TP-006-002   | HDF-EOS Library Users Guide for the ECS Project--Volume 2:<br>Function Reference Guide |
| 333-CD-003-006   | Release B.0 Toolkit 5.2 Users Guide for the ECS Project                                |
| 814-RD-009-001   | HDF-EOS 2.00 Version Description Document (VDD) for the ECS<br>Project                 |
| NASA-STD-2100-91 | NASA Software Documentation Standard, Software Engineering<br>Program                  |

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### **3. Product Description**

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This section describes the general capabilities of Release B.0 Toolkit 5.2, Version 1.00, and the tools and test drivers provided.

#### **3.1 Product Description and General Capabilities**

The Release B.0 Toolkit 5.2 will be used by data production software developers and scientists to develop code at their Science Computing Facilities and later encapsulate that code in Distributed Active Archive Center computing facilities. The purpose of the Toolkit is to provide an interface between instrument processing software and the production system environment. It sets up the context and environment for the execution of production processes and the transfer of data sets and information to those processes. This interface will be implemented in the SCF development environment along with additional utilities that will be used to emulate production environment services.

An important goal of the Toolkit is to facilitate the smooth transition and integration of code into the DAAC by abstracting out science process dependencies on external system architecture. Another goal is the provision of an interface into which application modules can be incorporated. This may include, for example, geo-location packages, other specialized routines that can be Commercial-Off-The-Shelf, freeware or user supplied modules.

See Appendices A and F for further description of the installation scripts and the test baseline configuration.

The Toolkit Utilities and Ancillary data files are not part of the tool set but are part of this delivery. The Toolkit Utilities are ancillary data creation and file management utilities. They are provided to enhance the SCF development environment in lieu of an operational production environment. Additionally, the Ancillary/Auxiliary (AA) data access tools are provided. It is not necessary to install these files if users do not plan to use these tools.

#### **3.2 Release B.0 Toolkit 5.2 Routine Listing**

The following Release B.0 Toolkit 5.2 Routine listing provides a description of the tools.

<b>Tool Name</b>	<b>Description</b>
pccheck	Use to verify that a process control file (PCF) is syntactically correct
PGS_AA_2Dgeo	Allows access to 2 dimensional data sets e.g., sea-ice
PGS_AA_2DRead	Allows access to 2 dimensional data sets e.g., sea-ice
PGS_AA_3Dgeo	Allows access to 3 dimensional data sets, e.g., atmospheric humidity
PGS_AA_3DRead	Allows access to 3 dimensional data sets, e.g., atmospheric model
PGS_AA_dcw	Returns the surface types (land, sea, coast), and nation-state to be determined (TBD) for a user defined set of locations

<b>Tool Name</b>	<b>Description (continued)</b>
PGS_AA_dem	Locates heights from specified digital elevation model (DEM) corresponding to each of the locations specified
PGS_AA_PeVA_integer	Searches in a specified file for the parameter and returns the value of that parameter which is an integer
PGS_AA_PeVA_real	Searches in a specified file for the parameter and returns the value of that parameter which is a real(float)
PGS_AA_PeVA_string	Searches in a specified file for the parameter and returns the value of that parameter which is a text string
PGS_CBP_body_inFOV	Given instrument parameters, returns a flag to indicate whether any of the user-selected major celestial bodies (sun, moon, etc.) are in the instrument field-of-view.
PGS_CBP_BrightStar_positions*	Returns the position of all stars of magnitude > input magnitude, or the position of the stars designated by inputting star id's and setting the flag 'input_flag'.
PGS_CBP_Earth_CB_Vector	Computes the Earth centered inertial (ECI) frame vector from the Earth to the sun, moon, or planets at a given time, or range of time(s)
PGS_CBP_Sat_CB_Vector	Computes the ECI vector from the spacecraft to the sun, moon, or planets at a given time or range of time(s)
PGS_CBP_SolarTimeCoords	Computes local solar time, and right ascension and declination of the sun, for a given standard time and position on the surface of the Earth
PGS_CSC_DayNight	Determines whether a given point on the Earth is in day, night or twilight, at a given time
PGS_CSC_Earthpt_FixedFOV	For a fixed field of view obtains the Coordinated Universal Time (UTC) time interval and the starting time that an Earth point is within the field-of-view, within a specified time window
PGS_CSC_Earthpt_FOV	For a field of view defined by a table of coordinates (accessed externally), and a known motion of the boresight vector as a function of time, obtains the Coordinated Universal Time (UTC) time interval and the starting time that an Earth point is within the field-of-view, within a specified time window
PGS_CSC_ECItoECR	Frame change tool
PGS_CSC_ECItoORB	Transforms a vector in the ECI Coordinate system to a vector in the Orbital Coordinate System
PGS_CSC_ECItoSC	Frame change tool
PGS_CSC_ECRtoECI	Frame change tool
PGS_CSC_ECRtoGEO	Frame change tool
PGS_CSC_GEOtoECR	Frame change tool
PGS_CSC_GetFOV_Pixel	Computes the projection of (geolocates) the instrument field-of-view on the Earth, optionally, geolocates the center of each pixel in the footprint
PGS_CSC_GreenwichHour	Returns the Greenwich Hour Angle of the vernal equinox, which is equal to Greenwich sidereal time, in the ECI frame, at a given time.
PGS_CSC_J2000toTOD	Transform from ECI J2000 to ECI True Date
PGS_CSC_nutate2000	Transforms a vector under nutation from Celestial Coordinates of date in Barycentric Dynamical Time (TDB) to J2000 coordinates or from J2000 coordinates to Celestial Coordinates of date
PGS_CSC_ORBtoECI	Transforms vector in orbital coordinate system to vector in ECI coordinate system

<b>Tool Name</b>	<b>Description (continued)</b>
PGS_CSC_ORBtoSC	Frame change tool
PGS_CSC_precs2000	Precesses a vector from Celestial Coordinates of date in Barycentric Dynamical Time (TDB) to J2000 coordinates or from J2000 coordinates to Celestial Coordinates of date in Barycentric Dynamical Time (TDB)
PGS_CSC_SCToECI	Frame change tool
PGS_CSC_SCToORB	Frame change tool
PGS_CSC_SpaceRefract	Estimate the refraction for a ray incident from space or a line of sight from space to the Earth's surface, based on the unrefracted zenith angle
PGS_CSC_SubSatPoint	Returns the position and velocity vector of the sub-satellite point ("pierce point"), or nadir of the satellite on the Earth's surface. Optionally returns the nadir vector also.
PGS_CSC_TODtoJ2000	Transform from ECI True of Date to ECI J2000 Coordinates
PGS_CSC_wahr2	Calculates nutation angles
PGS_CSC_ZenithAzimuth	Returns zenith and azimuth angles of spacecraft
PGS_CUC_Cons	Accesses constant values from a predetermined input file
PGS_CUC_Conv	Accesses conversion slope and intercept values, needed to convert between units
PGS_DEM_Close	Close a DEM dataset
PGS_DEM_DataPresent	Check for Valid DEM Data Point
PGS_DEM_GetMetadata	Extract Metadata from the DEM
PGS_DEM_GetPoint	Return Data at Specified DEM Point
PGS_DEM_GetQualityData	ACCESS DEM Quality Data
PGS_DEM_GetRegion	Return Data from a Specified Region of the DEM
PGS_DEM.GetSize	Return Size of Specified DEM Region
PGS_DEM_Open	Open a DEM dataset
PGS_DEM_SortModels	Check for Data in a Specified Region of the DEM
PGS_EPH_EphemAttit	Provides access to spacecraft ephemeris and attitude data for a given time range, interpolates the state vectors and spacecraft attitude to a specified time
PGS_EPH_GetEphMet	Returns the metadata associated with spacecraft ephemeris files
PGS_GCT_Init	Performs Geo-coordinate transformation initialization for the given projection with the given parameters
PGS_GCT_Proj	Performs Geo-coordinate transformations for the given projection in the forward and inverse directions
PGS_IO_Gen_Close	Close non-HDF file
PGS_IO_Gen_CloseF	Close non-HDF file FORTRAN
PGS_IO_Gen_Open	Open non-HDF file
PGS_IO_Gen_OpenF	Open non-HDF file FORTRAN 77 & 90
PGS_IO_Gen_Temp_Delete	Permanently delete a temporary file
PGS_IO_Gen_Temp_Open	Open temporary file
PGS_IO_Gen_Temp_OpenF	Open temporary file FORTRAN 77 & 90
PGS_IO_L0_Close	Closes a virtual data set that was opened with a call to PGS_IO_L0_Open.
PGS_IO_L0_File_Sim	Creates a file of simulated Level 0 data
PGS_IO_L0_GetHeader	Gets the header and footer data for the currently open physical file
PGS_IO_L0_GetPacket	Gets a single packet from the specified Level 0 Virtual Data Set
PGS_IO_L0_Open	Open a Virtual Level 0 Data Set

<b>Tool Name</b>	<b>Description (continued)</b>
PGS_IO_L0_SetStart	Sets the specified open virtual data set so that the next call to PGS_IO_L0_GetPacket will read the first packet at or after the specified time
PGS_IO_L0_SetStartCntPkts	Sets the specified open virtual data set so that the next call to PGS_IO_L0_GetPacket will read the first packet at or after the specified time and tracks the number of packets skipped in the current file.
PGS_MEM_Calloc	Allocates an array of arbitrarily sized elements, initializing them to zero, in memory
PGS_MEM_Free	Deallocates memory that was previously allocated
PGS_MEM_FreeAll	Deallocates all memory that was previously allocated within a process
PGS_MEM_Malloc	Allocates an arbitrary number of bytes in memory
PGS_MEM_Realloc	Reallocates the number of bytes requested
PGS_MEM_ShmAttach	Used by an executable to attach to an existing shared memory segment
PGS_MEM_ShmCreate	Used to create a shared memory segment
PGS_MEM_ShmDetach	Used to detach a shared memory segment from a process that attached it
PGS_MEM_ShmRead	FORTRAN Read from Shared Memory
PGS_MEM_ShmWrite	FORTRAN Write to Shared Memory
PGS_MEM_Zero	Initializes a memory block or structure to zero
PGS_MET_GetConfigData	Enables the user to get the values of Config data parameters held in the PC table
PGS_MET_GetPCAttr	Retrieves parameter values from the PC table which are either located as HDF attributes on product files or in separate ASCII files
PGS_MET_GetSetAttr	Enables the user to get the values of metadata parameters which are already set by the initialization procedure
PGS_MET_Init	Initializes a metadata configuration file (MCF)
PGS_MET_Remove	Contains PGS_MET_Remove() which frees the memory held by the metadata configuration file (MCF) and data dictionary object description language (ODL) representations
PGS_MET_SetAttr	Enables the user to set the value of metadata parameters
PGS_MET_Write	Enables the user to write different groups of metadata to separate HDF attributes
PGS_PC_GenUniqueId	Used to generate a unique product identifier. May be attached to file metadata to facilitate tracking of production output
PGS_PC_GetConfigData	May be used to access run-time parameters in-the PGE
PGS_PC_GetConfigDataCom	May be used to access run-time parameters at the shell level
PGS_PC_GetFileAttr	Used to retrieve the attribute string that contains the metadata for a Product file
PGS_PC_GetFileAttrCom	Used at the shell level to retrieve an attribute "stream" that contains the metadata for a Product file
PGS_PC_GetFileByAttr	Used to retrieve the specific instance of a product file that satisfies the search criteria, defined by a user-supplied method, applied to the metadata of each product file instance
PGS_PC_GetFileSize	Get the size of a file in the PCF.
PGS_PC_GetFileSizeCom	Get the size of a file in the PCF at the shell level.
PGS_PC_GetNumberOfFiles	May be used to query the number of file instances that are associated with a particular product file

<b>Tool Name</b>	<b>Description (continued)</b>
PGS_PC_GetNumberOfFilesCom	May be used, at the shell level, to query the number of file instances that are associated with a particular product file
PGS_PC_GetReference	Used to obtain a physical file pathname from a logical identifier for a particular Product file
PGS_PC_GetReferenceCom	Used at the shell level to obtain a physical file pathname from a logical identifier for a particular Product file
PGS_PC_GetReferenceType	Tool may be used to ascertain the type of file reference which is associated with a logical identifier within the science software
PGS_PC_GetTempReferenceCom	Used at the shell level to obtain a physical file pathname from a logical identifier for a particular Temporary, or Intermediate file
PGS_PC_GetUniversalRef	Used to obtain a universal reference from a logical identifier
PGS_PC_InitCom	Used, prior to PGE execution, to establish a working environment for the SDP Toolkit
PGS_PC_Shell.sh	Provides an integrated environment for the SDP Toolkit and a PGE
PGS_PC_TempDeleteCom	Used at the shell level to delete the Temporary file currently associated with a particular logical identifier
PGS_PC_TermCom	Used, following PGE termination, to cleanup the resources used by the SDP Toolkit
PGS_SMF_Begin	Signal SMF that function has started
PGS_SMF_CreateMsgTag	May be used to generate a unique message identifier
PGS_SMF_End	Signal SMF that function has ended
PGS_SMF_GenerateStatusReport	Used to add user-defined status reports to the Status Report Log file
PGS_SMF_GetActionCode	Provide the means to retrieve an action string associated with a specific mnemonic code
PGS_SMF_GetInstrName	Used to retrieve the instrument name from a given error/status code
PGS_SMF_SetMsg	Provide the means to retrieve a previously set message from the static buffer PGS_SMF_Set....
PGS_SMF_SetMsgByCode	Provide the means to retrieve the message string corresponding to a specific mnemonic code
PGS_SMF_GetToolkitVersion	This function returns a string describing the current version of the Toolkit.
PGS_SMF_SendRuntimeData	Provide a means for the user to transmit a package of runtime data to the SCF in the event of an unhandled system exception
PGS_SMF_SetArithmeticTrap*	Used to specify a signal handling function to perform in the event that an error arithmetic operation has occurred.
PGS_SMF_SetDynamicMsg	Provide the means to set a user-defined error/status message in response to the outcome of some segment of processing.
PGS_SMF_SetHDFMsg*	Provide the means to retain the HDF-EOS error message as a result of an HDF-EOS error.
PGS_SMF_SetStaticMsg	Provide the means to set a predefined error/status message in response to the outcome of some segment of processing.
PGS_SMF_SetUNIXMsg	Provides the means to retain UNIX error messages for later retrieval
PGS_SMF_TestErrorLevel	Will return a Boolean value indicating whether or not the returned code has status level 'E'
PGS_SMF_TestFatalLevel	Will return a Boolean value indicating whether or not the returned code has status level 'F'
PGS_SMF_TestMessageLevel	Will return a Boolean value indicating whether or not the returned code has status level 'M'
PGS_SMF_TestNoticeLevel	Will return a Boolean value indicating whether or not the returned code has status level 'N'

<b>Tool Name</b>	<b>Description (continued)</b>
PGS_SMF_TestStatusLevel	Will return a defined status level constant
PGS_SMF_TestSuccessLevel	Will return a Boolean value indicating whether or not the returned code has status level 'S'
PGS_SMF_TestUserInfoLevel	Will return a Boolean value indicating whether or not the returned code has status level 'U'
PGS_SMF_TestWarningLevel	Will return a Boolean value indicating whether or not the returned code has status level 'W'
PGS_TD_ASCIItime_AtoB	Converts binary time values to ASCII Code B time values of the form year_month_day_time_of_day in the Consultative Committee on space Data Systems (CCSDS) format
PGS_TD_ASCIItime_BtoA	Converts binary time values to ASCII Code A time values of the form year_month_day_time_of_day in the CCSDS format
PGS_TD_GPSToUTC	Converts to Coordinated Universal Time (UTC) time value from Global Positioning System (GPS) time by converting to internal time, adding the GPS_minus_UTC_leapseconds from the leapseconds file, and converting to GPS format following CCSDS ASCII standard A
PGS_TD_LeapSec	Find Leap second value
PGS_TD_SCtime_to_UTC	Converts spacecraft clock time to UTC for EOS platforms or for foreign spacecraft
PGS_TD_TAItoGAST	Converts International Atomic Time (TAI) (toolkit internal time) to Greenwich apparent sidereal time (GAST) expressed as the hour angle of the true vernal equinox of date at the Greenwich meridian (in radians)
PGS_TD_TAIjdtoTAI	Converts TAI Julian date to time in TAI seconds since 12 AM UTC 1-1-1993
PGS_TD_TAItoTAIjd	Converts time in TAI seconds since 12 AM UTC 1-1-1993 to TAI Julian date
PGS_TD_TAItoUTC	Converts TAI time value to UTC time
PGS_TD_TimeInterval	Computes the elapsed TAI time in seconds between any two epochs after January 1, 1958
PGS_TD_UTCtoGPS	Converts UTC time value to GPS time by converting to internal time, adding the GPS_minus_UTC_leapseconds from the leapseconds file, and converting to GPS format following CCSDS ASCII standard A
PGS_TD_UTCtoTAI	Converts UTC time to TAI time by first converting UTC to internal time and then adding the TAI_minus_UTC_leapseconds from the leapseconds file
PGS_TD_UTCtoTDBjed	UTC to Barycentric Dynamical Time (TDB) time conversion
PGS_TD_UTCtoTDTjed	UTC to Terrestrial Dynamical Time (TDT) time conversion
PGS_TD_UTCtoUT1	Converts UTC to UT1 time
PGS_TD_UTCtoUT1jd	Converts UTC time in CCSDS ASCII Time Code to UT1 time as a Julian date
PGS_TD_UTCjdtoUTC	Converts UTC as a Julian date to UTC in CCSDS ASCII Time Code A format
PGS_TD_UTCtoUTCjd	Converts UTC in CCSDS ASCII Time Code A format to UTC as a Julian date
PGS_TD_UTC_to_SCtime	Converts UTC to Spacecraft clock time for EOS standard of Foreign Spacecraft
smfcompile	Provides means to store messages in files that are accessed at runtime to get the message text.

\* Undelivered at this time; please see the Release B.0 SCF Toolkit Users Guide.

### **3.3 Release B.0 Toolkit 5.2 Test Tools and Drivers**

Included in the delivery of Release B.0 Toolkit 5.2 Version 1.00 are sample drivers for each toolkit routine or set of routines. These drivers are provided “as is” as an aid to the Toolkit Users. These drivers have been used during the integration and test process and may be useful to verify installation, debug errors encountered while using the toolkit, or as sample routines for calling the toolkit functions. They are provided as a service to the toolkit users and will not be maintained or updated.

The drivers are contained in a separate tar file named SDPTK5.2v1.00\_TestDrivers.tar.Z. The file contains a driver for each tool or set of related tools (such as Generic I/O), a “Readme file” describing how to compile and use the drivers for each tool group, a makefile for each tool group, sample output files and sample input files for the drivers. In addition to the “Readme file”, the drivers and sample files are well commented to aid the user in correct usage. This is the only documentation that will be delivered for the drivers. To access the sample drivers, untar the file, read the desired readme, set the environment, make the desired driver and run. The files in the sample driver directory (test\_drivers) follow the following naming convention:

- 1) Driver Name:

C Driver: tool\_name\_Driver\_c.c

Fortran Driver: tool\_name\_Driver\_f.f

(Example: PGS\_CBP\_Earth\_CB\_Vector\_Driver\_c.c)

*or* for a tool group with one driver: tool\_group\_name\_Driver\_c.c and tool\_group\_name\_Driver\_f.f (ex: PGS\_GCT\_Driver\_f.f)

The \_c and \_f in the name prevents name conflicts between the C and FORTRAN in the executables.

- 2) README file: README.<tool group name>.

The README file explains how to use drivers. The README file also contains all the environment variables needed to be set to run the driver, with some examples of values for those variables.

The make instruction assumes the Toolkit Libraries are available and the Toolkit environmental variable have been set, for example:

\$PGSLIB points to the toolkit library

\$PGSINC points to the include files

- 3) Sample output: <Driver\_Name>.out\_sample
- 4) Sample input file: Driver\_Name.in

The drivers have been implemented to be used either interactively (requiring user inputs) or driven by an input file. All of the tools can operate in both modes. The sample output was obtained by running the tool from the provided input file. Repeating this process and comparing the output with the sample file may be useful in validating proper installation or porting of the toolkit. Using the interactive capabilities or modifying the input file to fit the values encountered during your integration may help to debug errors encountered while using the toolkit.

### **3.4 Release B.0 Toolkit 5.2 Hierarchical Data Format**

The Hierarchical Data Format (HDF) has been selected by the EOSDIS Project as the format of choice for standard product distribution. HDF is a *disk format* and *subroutine library* for storage of most kinds of scientific data. As a *disk format*, HDF files consist of a directory and an unordered set of binary data objects. Each directory entry describes the location, the type, and the size of these binary objects.

The *HDF subroutine library* is designed to be easy for C and Fortran programmers to use. The HDF library consists of callable routines, each of which belongs to a particular *interface*. Each interface within these layers address a particular HDF function or a particular HDF data structure, such as arrays, tables, and annotations.

### **3.5 Release B.0 SCF Toolkit Users Guide**

The purpose of the *Release B.0 SCF Toolkit Users Guide* is to provide EOS instrument data processing software developers and scientists with knowledge of Release B.0 Toolkit 5.2 functionality, and to provide a listing of routine calling sequences, detailed descriptions, and examples of usage. This document accompanies the software delivery described in Sections 3.2, 3.3, and 3.4 above.

## 4. Product Inventory

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### 4.1 Release B Toolkit 5.2 Tar File Listing

A listing of the tar file “SDPTK5.2v1.00.tar.Z” follows:

```
TOOLKIT/
TOOLKIT/bin/
TOOLKIT/bin/INSTALL
TOOLKIT/bin/common/
TOOLKIT/bin/common/INSTALL
TOOLKIT/bin/common/INSTALL-AAdat
TOOLKIT/bin/common/INSTALL-HDF
TOOLKIT/bin/common/INSTALL-Toolkit
TOOLKIT/bin/common/ftp.csh
TOOLKIT/bin/common/mkpgslib
TOOLKIT/bin/common/pgs-flags
TOOLKIT/bin/common/tmp/
TOOLKIT/bin/common/tmp/jackets.c.unicos
TOOLKIT/bin/common/tmp/pgs-dev-env.csh.tmp
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TOOLKIT/src/TD/PGS\_TD\_NewLeap.c  
TOOLKIT/src/TD/PGS\_TD\_PB5toTAI.c  
TOOLKIT/src/TD/PGS\_TD\_PB5toUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_SCtime\_to\_UTC.c  
TOOLKIT/src/TD/PGS\_TD\_TAIjdtoTAI.c  
TOOLKIT/src/TD/makefile  
TOOLKIT/src/TD/PGS\_TD\_TAIjdtoTDTjed.c  
TOOLKIT/src/TD/PGS\_TD\_TAIjdtoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoGAST.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoTAIjd.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoUT1jd.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoUT1pole.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoUTC.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_TDBjedtoTDTjed.c  
TOOLKIT/src/TD/PGS\_TD\_TDTjedtoTAIjd.c  
TOOLKIT/src/TD/PGS\_TD\_TDTjedtoTDBjed.c  
TOOLKIT/src/TD/PGS\_TD\_TRMMtoTAI.c  
TOOLKIT/src/TD/PGS\_TD\_TRMMtoUTC.c  
TOOLKIT/src/TD/PGS\_TD\_TimeInterval.c  
TOOLKIT/src/TD/PGS\_TD\_UTC\_to\_SCtime.c  
TOOLKIT/src/TD/PGS\_TD\_UTCjdtoPB5.c  
TOOLKIT/src/TD/PGS\_TD\_UTCjdtoTAIjd.c  
TOOLKIT/src/TD/PGS\_TD\_UTCjdtoUT1jd.c  
TOOLKIT/src/TD/PGS\_TD\_UTCjdtoUTC.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoEOSAM.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoEOSPM.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoGPS.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoTAI.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoTAIjd.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoTDBjed.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoTDTjed.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoTRMM.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoUT1.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoUT1jd.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_bindFORTRAN.c  
TOOLKIT/src/TD/PGS\_TD\_calday.c  
TOOLKIT/src/TD/PGS\_TD\_gast.c  
TOOLKIT/src/TD/PGS\_TD\_gmst.c  
TOOLKIT/src/TD/PGS\_TD\_julday.c  
TOOLKIT/src/TD/PGS\_TD\_sortArrayIndices.c  
TOOLKIT/src/TD/PGS\_TD\_timeCheck.c  
TOOLKIT/src/TD/time\_notes.txt  
TOOLKIT/src/TD/update\_leapsec.sh  
TOOLKIT/src/TD/PGS\_TD\_TJDtoJD.c  
TOOLKIT/src/TD/PGS\_TD\_JDtoTJD.c  
TOOLKIT/src/TD/PGS\_TD\_FGDCtoUTC.c  
TOOLKIT/src/TD/PGS\_TD\_UTCtoFGDC.c  
TOOLKIT/src/TD/PGS\_TD\_ISOinttoTAI.c  
TOOLKIT/src/TD/PGS\_TD\_ISOinttoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoISOint.c  
TOOLKIT/src/TD/PGS\_TD\_UTCjdtoISOint.c  
TOOLKIT/src/TD/PGS\_TD\_UT1jdtoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_PB5CtoUTCjd.c  
TOOLKIT/src/TD/PGS\_TD\_TAItoUDTF.c

```

TOOLKIT/src/TD/PGS_TD_UDTFtoTAI.c
TOOLKIT/src/TD/PGS_TD_UDTFtoUTCjd.c
TOOLKIT/src/TD/PGS_TD_UTCjdtoPB5C.c
TOOLKIT/src/TD/PGS_TD_UTCjdtoUDTF.c
TOOLKIT/src/TD/PGS_TD_ADEOSIItoTAI.c
TOOLKIT/src/TD/PGS_TD_ADEOSIItoUTC.c
TOOLKIT/src/TD/PGS_TD_ManageTMDF.c
TOOLKIT/src/TD/PGS_TD_ManageUTCF.c
TOOLKIT/src/TD/PGS_TD_UTCtoADEOSII.c
TOOLKIT/src/DEM/
TOOLKIT/src/DEM/PGS_DEM_Close.c
TOOLKIT/src/DEM/PGS_DEM_DataPresent.c
TOOLKIT/src/DEM/PGS_DEM_ExtentRegion.c
TOOLKIT/src/DEM/PGS_DEM_ExtractRegion.c
TOOLKIT/src/DEM/PGS_DEM_GetPoint.c
TOOLKIT/src/DEM/PGS_DEM_GetRegion.c
TOOLKIT/src/DEM/PGS_DEM_GetSize.c
TOOLKIT/src/DEM/PGS_DEM_Lookup.c
TOOLKIT/src/DEM/PGS_DEM_Open.c
TOOLKIT/src/DEM/PGS_DEM_OrderIndices.c
TOOLKIT/src/DEM/PGS_DEM_OrderIndicesSum.c
TOOLKIT/src/DEM/PGS_DEM_OrderIndicesSumDeg.c
TOOLKIT/src/DEM/PGS_DEM_OrderIndicesSumPix.c
TOOLKIT/src/DEM/PGS_DEM_OrderSubset.c
TOOLKIT/src/DEM/PGS_DEM_Populate.c
TOOLKIT/src/DEM/makefile
TOOLKIT/src/DEM/PGS_DEM_RecursiveSearchDeg.c
TOOLKIT/src/DEM/PGS_DEM_RecursiveSearchPix.c
TOOLKIT/src/DEM/PGS_DEM_ReplaceFillPoints.c
TOOLKIT/src/DEM/PGS_DEM_ReplaceFillPointsFlt32.c
TOOLKIT/src/DEM/PGS_DEM_ReplaceFillPointsInt16.c
TOOLKIT/src/DEM/PGS_DEM_ReplaceFillPointsInt8.c
TOOLKIT/src/DEM/PGS_DEM_SortModels.c
TOOLKIT/src/DEM/PGS_DEM_Subset.c
TOOLKIT/src/DEM/PGS_DEM_WriteDegreeToPixel.c
TOOLKIT/src/DEM/PGS_DEM_WriteSubgridCalculator.c
TOOLKIT/src/DEM/PGS_DEM_bindFORTRAN.c
TOOLKIT/src/DEM/PGS_DEM_GetMetadata.c
TOOLKIT/test/

```

## 4.2 Test Tools Tar File Listing

The Release B.0 Toolkit 5.2 test drivers tar file listing “SDPTK5.2v1.00\_TestDrivers.tar.Z” follows:

```

./PGS_Tool_Driver_c.c
./PGS_Tool_Driver_f.f
./test_drivers/
./test_drivers/AA/
./test_drivers/AA/PGS_AA_2DRead_Driver_f.f
./test_drivers/AA/PGS_AA_3DRead_Driver_f.f
./test_drivers/AA/PGS_AA_2DRead_Driver_c.c
./test_drivers/AA/PGS_AA_PeV_real_Driver_c.c
./test_drivers/AA/PGS_AA_PeV_integer_Driver_c.c
./test_drivers/AA/PGS_AA_PeV_string_Driver_c.c
./test_drivers/AA/PGS_AA_3DRead_Driver_c.c
./test_drivers/AA/makefile
./test_drivers/AA/makefile.f90

```

```
./test_drivers/AA/PGS_AA_PeV_integer_Driver.in
./test_drivers/AA/PGS_AA_PeV_integer_Driver_c.out_sample
./test_drivers/AA/PGS_AA_PeV_real_Driver.in
./test_drivers/AA/PGS_AA_PeV_real_Driver_c.out_sample
./test_drivers/AA/PGS_AA_PeV_string_Driver.in
./test_drivers/AA/PGS_AA_PeV_string_Driver_c.out_sample
./test_drivers/AA/PGS_AA_2DRead_Driver_c.out_sample
./test_drivers/AA/PGS_AA_2DRead_Driver_f.out_sample
./test_drivers/AA/PGS_AA_3DRead_Driver_c.out_sample
./test_drivers/AA/PGS_AA_3DRead_Driver_f.out_sample
./test_drivers/AA/README.AA
./test_drivers/AA/PGS_AA_3DRead_Driver.in
./test_drivers/AA/PGS_AA_2DRead_Driver.in
./test_drivers/AA/PGS_AA_PeV_integer_Driver_f.f
./test_drivers/AA/PGS_AA_PeV_real_Driver_f.f
./test_drivers/AA/PGS_AA_PeV_string_Driver_f.f
./test_drivers/AA/PGS_AA_PeV_real_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeV_integer_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeV_string_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeVA_integer_Driver_c.c
./test_drivers/AA/PGS_AA_PeVA_real_Driver_c.c
./test_drivers/AA/PGS_AA_PeVA_string_Driver_c.c
./test_drivers/AA/PGS_AA_PeVA_integer_Driver_f.f
./test_drivers/AA/PGS_AA_PeVA_real_Driver_f.f
./test_drivers/AA/PGS_AA_PeVA_string_Driver_f.f
./test_drivers/AA/AATestData/
./test_drivers/AA/AATestData/testdata1
./test_drivers/AA/AATestData/testdata1.bfm
./test_drivers/AA/AATestData/testdata1Support
./test_drivers/AA/AATestData/testdata2.bfm
./test_drivers/AA/AATestData/testdata2Support
./test_drivers/AA/AATestData/testdouble.bfm
./test_drivers/AA/AATestData/testdoubleSupport
./test_drivers/AA/AATestData/testfloat.bfm
./test_drivers/AA/AATestData/testfloatSupport
./test_drivers/AA/AATestData/testdata2
./test_drivers/AA/AATestData/testdouble.dat
./test_drivers/AA/AATestData/testfloat.dat
./test_drivers/AA/AATestData/testIndexFile
./test_drivers/AA/AATestData/AA_PeVA_invalid1
./test_drivers/AA/AATestData/AA_PeVA_invalid2
./test_drivers/AA/AATestData/AA_PeVA_valid1
./test_drivers/AA/AATestData/AA_PeVA_valid2
./test_drivers/AA/AATestData/AA_PeVA_valid3
./test_drivers/AA/AATestData/testdata1Support_dec
./test_drivers/AA/AATestData/testdata2Support_dec
./test_drivers/AA/AATestData/testdata2_dec
./test_drivers/AA/AATestData/testdoubleSupport_dec
./test_drivers/AA/AATestData/testfloatSupport_dec
./test_drivers/AA/AATestData/testdata2_dec.bfm
./test_drivers/AA/AATestData/testdata2Support_sgi64
./test_drivers/AA/AATestData/testdata2_sgi64
./test_drivers/AA/AATestData/testdata2_sgi64.bfm
./test_drivers/AA/PGS_AA_PeVA_integer_Driver.in
./test_drivers/AA/PGS_AA_PeVA_integer_Driver_c.out_sample
./test_drivers/AA/PGS_AA_PeVA_integer_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeVA_real_Driver.in
./test_drivers/AA/PGS_AA_PeVA_real_Driver_c.out_sample
```

```

./test_drivers/AA/PGS_AA_PeVA_real_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeVA_string_Driver.in
./test_drivers/AA/PGS_AA_PeVA_string_Driver_c.out_sample
./test_drivers/AA/PGS_AA_2Dgeo_Driver_c.c
./test_drivers/AA/PGS_AA_2Dgeo_Driver_f.f
./test_drivers/AA/PGS_AA_3Dgeo_Driver_c.c
./test_drivers/AA/PGS_AA_3Dgeo_Driver_f.f
./test_drivers/AA/PGS_AA_dcw_Driver_c.c
./test_drivers/AA/PGS_AA_dcw_Driver_f.f
./test_drivers/AA/PGS_AA_dem_double_Driver_c.c
./test_drivers/AA/PGS_AA_dem_double_Driver_f.f
./test_drivers/AA/PGS_AA_dem_integer_Driver_c.c
./test_drivers/AA/PGS_AA_dem_integer_Driver_f.f
./test_drivers/AA/PGS_AA_dem_long_Driver_c.c
./test_drivers/AA/PGS_AA_dem_long_Driver_f.f
./test_drivers/AA/PGS_AA_dem_real_Driver_c.c
./test_drivers/AA/PGS_AA_dem_real_Driver_f.f
./test_drivers/AA/PGS_AA_2Dgeo_Driver.in
./test_drivers/AA/PGS_AA_2Dgeo_Driver_c.out_sample
./test_drivers/AA/PGS_AA_2Dgeo_Driver_f.out_sample
./test_drivers/AA/PGS_AA_3Dgeo_Driver.in
./test_drivers/AA/PGS_AA_3Dgeo_Driver_c.out_sample
./test_drivers/AA/PGS_AA_3Dgeo_Driver_f.out_sample
./test_drivers/AA/PGS_AA_dcw_Driver.in
./test_drivers/AA/PGS_AA_dcw_Driver_c.out_sample
./test_drivers/AA/PGS_AA_dcw_Driver_f.out_sample
./test_drivers/AA/PGS_AA_dem_double_Driver.in
./test_drivers/AA/PGS_AA_dem_double_Driver_c.out_sample
./test_drivers/AA/PGS_AA_dem_double_Driver_f.out_sample
./test_drivers/AA/PGS_AA_dem_integer_Driver.in
./test_drivers/AA/PGS_AA_dem_integer_Driver_c.out_sample
./test_drivers/AA/PGS_AA_dem_integer_Driver_f.out_sample
./test_drivers/AA/PGS_AA_dem_long_Driver.in
./test_drivers/AA/PGS_AA_dem_long_Driver_c.out_sample
./test_drivers/AA/PGS_AA_dem_long_Driver_f.out_sample
./test_drivers/AA/PGS_AA_dem_real_Driver.in
./test_drivers/AA/PGS_AA_dem_real_Driver_c.out_sample
./test_drivers/AA/PGS_AA_dem_real_Driver_f.out_sample
./test_drivers/AA/PGS_AA_PeVA_string_Driver_f.out_sample
./test_drivers/CBP/
./test_drivers/CBP/PGS_CBP_Earth_CB_Vector_Driver_c.c
./test_drivers/CBP/PGS_CBP_Sat_CB_Vector_Driver_c.c
./test_drivers/CBP/makefile
./test_drivers/CBP/PGS_CBP_Earth_CB_Vector_Driver_f.f
./test_drivers/CBP/PGS_CBP_SolarTimeCoords_Driver_f.f
./test_drivers/CBP/PGS_CBP_Sat_CB_Vector_Driver_f.f
./test_drivers/CBP/PGS_CBP_SolarTimeCoords_Driver_c.c
./test_drivers/CBP/PGS_CBP_Earth_CB_Vector_Driver_c.out_sample
./test_drivers/CBP/PGS_CBP_Earth_CB_Vector_Driver_f.out_sample
./test_drivers/CBP/PGS_CBP_Earth_CB_Vector_Driver.in
./test_drivers/CBP/PGS_CBP_Sat_CB_Vector_Driver.in
./test_drivers/CBP/PGS_CBP_SolarTimeCoords_Driver.in
./test_drivers/CBP/PGS_CBP_SolarTimeCoords_Driver_c.out_sample
./test_drivers/CBP/PGS_CBP_SolarTimeCoords_Driver_f.out_sample
./test_drivers/CBP/PGS_CBP_Sat_CB_Vector_Driver_c.out_sample
./test_drivers/CBP/PGS_CBP_Sat_CB_Vector_Driver_f.out_sample
./test_drivers/CBP/README.CBP
./test_drivers/CBP/makefile.f90

```

```
./test_drivers/CBP/PGS_CBP_body_inFOV_Driver_c.c
./test_drivers/CBP/PGS_CBP_body_inFOV_Driver_f.f
./test_drivers/CBP/PGS_CBP_body_inFOV_Driver.in
./test_drivers/CBP/PGS_CBP_body_inFOV_Driver_c.out_sample
./test_drivers/CBP/PGS_CBP_body_inFOV_Driver_f.out_sample
./test_drivers/CSC/
./test_drivers/CSC/PGS_CSC_GreenwichHour_Driver_c.c
./test_drivers/CSC/PGS_CSC_DayNight_Driver_f.f
./test_drivers/CSC/PGS_CSC_ZenithAzimuth_Driver_c.c
./test_drivers/CSC/makefile
./test_drivers/CSC/PGS_CSC_ECItoSC_Driver_c.c
./test_drivers/CSC/PGS_CSC_ECItoECR_Driver_c.c
./test_drivers/CSC/PGS_CSC_GreenwichHour_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECRtoGEO_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECRtoGEO_Driver_c.c
./test_drivers/CSC/PGS_CSC_GEOtoECR_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECItoSC_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECItoECR_Driver_f.f
./test_drivers/CSC/PGS_CSC_GetFOV_Pixel_Driver_f.f
./test_drivers/CSC/PGS_CSC_GetFOV_Pixel_Driver_c.c
./test_drivers/CSC/PGS_CSC_ZenithAzimuth_Driver_f.f
./test_drivers/CSC/PGS_CSC_GEOtoECR_Driver_c.c
./test_drivers/CSC/PGS_CSC_DayNight_Driver_c.c
./test_drivers/CSC/PGS_CSC_SubSatPoint_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECRtoECI_Driver_f.f
./test_drivers/CSC/PGS_CSC_SCtoECI_Driver_f.f
./test_drivers/CSC/PGS_CSC_ORBtoSC_Driver_f.f
./test_drivers/CSC/PGS_CSC_SCtoORB_Driver_f.f
./test_drivers/CSC/PGS_CSC_SCtoECI_Driver_c.c
./test_drivers/CSC/PGS_CSC_ECRtoECI_Driver_c.c
./test_drivers/CSC/PGS_CSC_ORBtoSC_Driver_c.c
./test_drivers/CSC/PGS_CSC_SubSatPoint_Driver_c.c
./test_drivers/CSC/PGS_CSC_SCtoORB_Driver_c.c
./test_drivers/CSC/makefile.f90
./test_drivers/CSC/PGS_CSC_DayNight_Driver.in
./test_drivers/CSC/PGS_CSC_DayNight_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_GreenwichHour_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_GreenwichHour_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ZenithAzimuth_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ZenithAzimuth_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ZenithAzimuth_Driver.in
./test_drivers/CSC/PGS_CSC_ECItoECR_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ECItoECR_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECRtoECI_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ECRtoECI_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECRtoGEO_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ECRtoGEO_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_GEOtoECR_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_GEOtoECR_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECItoECR_Driver.in
./test_drivers/CSC/PGS_CSC_ECRtoECI_Driver.in
./test_drivers/CSC/PGS_CSC_ECRtoGEO_Driver.in
./test_drivers/CSC/PGS_CSC_GEOtoECR_Driver.in
./test_drivers/CSC/PGS_CSC_SubSatPoint_Driver.in
./test_drivers/CSC/PGS_CSC_ORBtoSC_Driver.in
./test_drivers/CSC/PGS_CSC_SCtoORB_Driver.in
./test_drivers/CSC/PGS_CSC_ORBtoSC_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ORBtoSC_Driver_f.out_sample
```

```
./test_drivers/CSC/PGS_CSC_SCtoORB_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_SCtoORB_Driver_f.out_sample
./test_drivers/CSC/README.CSC
./test_drivers/CSC/PGS_CSC_GetFOV_Pixel_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_GetFOV_Pixel_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_GetFOV_Pixel_Driver.in
./test_drivers/CSC/PGS_CSC_ECItoSC_Driver.in
./test_drivers/CSC/PGS_CSC_SCtoECI_Driver.in
./test_drivers/CSC/PGS_CSC_ECItoSC_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_SCtoECI_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECItoSC_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_SubSatPoint_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_SubSatPoint_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_GreenwichHour_Driver.in
./test_drivers/CSC/PGS_CSC_DayNight_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_Earthpt_FOV_Driver_c.c
./test_drivers/CSC/PGS_CSC_Earthpt_FOV_Driver_f.f
./test_drivers/CSC/PGS_CSC_Earthpt_FOV_Driver.in
./test_drivers/CSC/PGS_CSC_Earthpt_FOV_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_Earthpt_FOV_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_nutate2000_Driver_c.c
./test_drivers/CSC/PGS_CSC_nutate2000_Driver_f.f
./test_drivers/CSC/PGS_CSC_precs2000_Driver_c.c
./test_drivers/CSC/PGS_CSC_precs2000_Driver_f.f
./test_drivers/CSC/PGS_CSC_SpaceRefract_Driver_c.c
./test_drivers/CSC/PGS_CSC_SpaceRefract_Driver_f.f
./test_drivers/CSC/PGS_CSC_ECItoORB_Driver_c.c
./test_drivers/CSC/PGS_CSC_ECItoORB_Driver_f.f
./test_drivers/CSC/PGS_CSC_ORBtoECI_Driver_c.c
./test_drivers/CSC/PGS_CSC_ORBtoECI_Driver_f.f
./test_drivers/CSC/PGS_CSC_ORBtoECI_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ORBtoECI_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECItoORB_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_ECItoORB_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_ECItoORB_Driver.in
./test_drivers/CSC/PGS_CSC_SpaceRefract_Driver.in
./test_drivers/CSC/PGS_CSC_SpaceRefract_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_SpaceRefract_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_nutate2000_Driver.in
./test_drivers/CSC/PGS_CSC_nutate2000_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_nutate2000_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_precs2000_Driver.in
./test_drivers/CSC/PGS_CSC_precs2000_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_precs2000_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_Earthpt_FixedFOV_Driver.in
./test_drivers/CSC/PGS_CSC_Earthpt_FixedFOV_Driver_c.c
./test_drivers/CSC/PGS_CSC_Earthpt_FixedFOV_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_Earthpt_FixedFOV_Driver_f.f
./test_drivers/CSC/PGS_CSC_Earthpt_FixedFOV_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_J2000toTOD_Driver.in
./test_drivers/CSC/PGS_CSC_J2000toTOD_Driver_c.c
./test_drivers/CSC/PGS_CSC_J2000toTOD_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_J2000toTOD_Driver_f.f
./test_drivers/CSC/PGS_CSC_J2000toTOD_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_TODtoJ2000_Driver.in
./test_drivers/CSC/PGS_CSC_TODtoJ2000_Driver_c.c
```

```
./test_drivers/CSC/PGS_CSC_TODtoJ2000_Driver_c.out_sample
./test_drivers/CSC/PGS_CSC_TODtoJ2000_Driver_f.f
./test_drivers/CSC/PGS_CSC_TODtoJ2000_Driver_f.out_sample
./test_drivers/CSC/PGS_CSC_GrazingRay_Driver.in
./test_drivers/CSC/PGS_CSC_GrazingRay_Driver_c.c
./test_drivers/CUC/
./test_drivers/CUC/PGS_CUC_Conv_Driver_c.c
./test_drivers/CUC/PGS_CUC_Cons_Driver_c.c
./test_drivers/CUC/makefile
./test_drivers/CUC/makefile.f90
./test_drivers/CUC/PGS_CUC_Conv_Driver_f.f
./test_drivers/CUC/PGS_CUC_Cons_Driver_f.f
./test_drivers/CUC/PGS_CUC_Conv_Driver_f.out_sample
./test_drivers/CUC/PGS_CUC_Conv_Driver.in
./test_drivers/CUC/README.CUC
./test_drivers/CUC/PGS_CUC_Conv_Driver_c.out_sample
./test_drivers/CUC/PGS_CUC_Cons_Driver.in
./test_drivers/CUC/PGS_CUC_Cons_Driver_c.out_sample
./test_drivers/CUC/PGS_CUC_Cons_Driver_f.out_sample
./test_drivers/EPH/
./test_drivers/EPH/makefile
./test_drivers/EPH/PGS_EPH_EphemAttit_Driver_c.c
./test_drivers/EPH/makefile.f90
./test_drivers/EPH/PGS_EPH_EphemAttit_Driver.in
./test_drivers/EPH/PGS_EPH_EphemAttit_Driver_f.f
./test_drivers/EPH/PGS_EPH_EphemAttit_Driver_c.out_sample
./test_drivers/EPH/PGS_EPH_EphemAttit_Driver_f.out_sample
./test_drivers/EPH/README.EPH
./test_drivers/EPH/PGS_EPH_GetEphMet_Driver.in
./test_drivers/EPH/PGS_EPH_GetEphMet_Driver_c.c
./test_drivers/EPH/PGS_EPH_GetEphMet_Driver_c.out_sample
./test_drivers/EPH/PGS_EPH_GetEphMet_Driver_f.f
./test_drivers/EPH/PGS_EPH_GetEphMet_Driver_f.out_sample
./test_drivers/GCT/
./test_drivers/GCT/PGS_GCT_Driver_c.c
./test_drivers/GCT/makefile
./test_drivers/GCT/makefile.f90
./test_drivers/GCT/PGS_GCT_Driver_f.f
./test_drivers/GCT/README.GCT
./test_drivers/GCT/PGS_GCT_Driver_c.out_sample
./test_drivers/GCT/PGS_GCT_Driver_f.out_sample
./test_drivers/GCT/PGS_GCT_Driver.in
./test_drivers/IO/
./test_drivers/IO/GEN/
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1.in_c
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1.c.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1.f.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver1_f90.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2.in_c
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2.c.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2.f.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver2_f90.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8.in_c
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8.in_f
```

```
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8_c.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8_f.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver8_f90.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a.in_c
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a_c.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a_f.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver9a_f90.out_sample
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT1.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT1.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT2.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT2.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT3.in_f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_INIT3.in_f90
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_c.c
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_f.f
./test_drivers/IO/GEN/PGS_Perm_IO_Driver_f90.f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver3_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver4_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver5_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver6_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver7_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b.in_c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b.in_f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b.in_f90
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b_c.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b_f.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver9b_f90.out_sample
./test_drivers/IO/GEN/PGS_Temp_IO_Driver_c.c
./test_drivers/IO/GEN/PGS_Temp_IO_Driver_f.f
./test_drivers/IO/GEN/PGS_Temp_IO_Driver_f90.f
```

```
./test_drivers/IO/GEN/refresh_c
./test_drivers/IO/GEN/refresh_f
./test_drivers/IO/GEN/refresh_f90
./test_drivers/IO/GEN/logdata
./test_drivers/IO/GEN/mkdatadirs
./test_drivers/IO/GEN/makefile
./test_drivers/IO/GEN/makefile.f90
./test_drivers/IO/GEN/README.IO
./test_drivers/IO/GEN/PGS_SH_IO.in
./test_drivers/IO/GEN/io-env.setup
./test_drivers/IO/L0/
./test_drivers/IO/L0/PGS_IO_L0_Driver_f.f
./test_drivers/IO/L0/PGS_IO_L0_Driver_c.c
./test_drivers/IO/L0/makefile
./test_drivers/IO/L0/makefile.f90
./test_drivers/IO/L0/README.L0
./test_drivers/IO/L0/PGS_IO_L0_Driver.in
./test_drivers/IO/L0/PGS_IO_L0_Driver_c.out_sample
./test_drivers/IO/L0/runL0sim.csh
./test_drivers/IO/L0/L0sim.EOSAM.input
./test_drivers/IO/L0/L0sim.EOSPM.input
./test_drivers/IO/L0/L0sim.TRMM.input
./test_drivers/IO/L0/L0sim.TRMM1.input
./test_drivers/IO/L0/PGS_IO_L0_Driver_f.out_sample
./test_drivers/MEM/
./test_drivers/MEM/PGS_DYN_MEM_Driver_c.c
./test_drivers/MEM/makefile
./test_drivers/MEM/PGS_SHM_MEM_Driver_c.c
./test_drivers/MEM/README.MEM
./test_drivers/MEM/PGS_DYN_MEM_Driver1.in
./test_drivers/MEM/PGS_DYN_MEM_Driver2.in
./test_drivers/MEM/PGS_SHM_MEM_Driver1.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver2.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver3.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver4.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver5.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver6.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver7.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver8.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver9.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver10.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver11.sh
./test_drivers/MEM/PGS_SHM_MEM_Driver1.in
./test_drivers/MEM/PGS_SHM_MEM_Driver2.in
./test_drivers/MEM/PGS_SHM_MEM_Driver3.in
./test_drivers/MEM/PGS_SHM_MEM_Driver4.in
./test_drivers/MEM/PGS_SHM_MEM_Driver8.in
./test_drivers/MEM/PGS_SHM_MEM_Driver9.in
./test_drivers/MEM/PGS_SHM_MEM_Driver10.in
./test_drivers/MEM/PGS_SHM_MEM_Driver11.in
./test_drivers/MEM/PGS_DYN_MEM_Driver2_c.out_sample
./test_drivers/MEM/PGS_DYN_MEM_Driver1_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver.init
./test_drivers/MEM/PGS_SHM_MEM_Driver.term
./test_drivers/MEM/PGS_SHM_MEM_Driver1_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver2_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver10_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver11_c.out_sample
```

```
./test_drivers/MEM/PGS_SHM_MEM_Driver3_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver4_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver8_c.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver9_c.out_sample
./test_drivers/MEM/makefile.f90
./test_drivers/MEM/PGS_SHM_MEM_Driver_f.f
./test_drivers/MEM/PGS_SHM_MEM_Driver2_f.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver2.in_f
./test_drivers/MEM/PGS_SHM_MEM_Driver1_f.out_sample
./test_drivers/MEM/PGS_SHM_MEM_Driver1.in_f
./test_drivers/MEM/PGS_SHM_MEM_Driver.sh_f
./test_drivers/MET/
./test_drivers/MET/PGS_MET_Driver_c.c
./test_drivers/MET/makefile
./test_drivers/MET/PGS_MET_Driver_f.f
./test_drivers/MET/MET_TestData/
./test_drivers/MET/MET_TestData/MCFfile
./test_drivers/MET/MET_TestData/MCFfile_1
./test_drivers/MET/MET_TestData/MCFfile_3
./test_drivers/MET/MET_TestData/MCFfile_6
./test_drivers/MET/MET_TestData/data_dict
./test_drivers/MET/MET_TestData/MCFfile_8
./test_drivers/MET/MET_TestData/LISUSR
./test_drivers/MET/MET_TestData/MOP_THRESH
./test_drivers/MET/makefile.f90
./test_drivers/MET/PGS_MET_Driver.in
./test_drivers/MET/PGS_MET_Driver_f.out_sample
./test_drivers/MET/PGS_MET_Driver_c.out_sample
./test_drivers/MET/README.MET
./test_drivers/PC/
./test_drivers/PC/PGS_PC_GenUniqueId_Driver_c.c
./test_drivers/PC/PGS_PC_GetConfigData_Driver_c.c
./test_drivers/PC/PGS_PC_GetNumberOfFiles_Driver_c.c
./test_drivers/PC/PGS_PC_GetReference_Driver_c.c
./test_drivers/PC/makefile
./test_drivers/PC/PGS_PC_GenUniqueId_Driver_f.f
./test_drivers/PC/PGS_PC_GetConfigData_Driver_f.f
./test_drivers/PC/PGS_PC_GetNumberOfFiles_Driver_f.f
./test_drivers/PC/PGS_PC_GetReference_Driver_f.f
./test_drivers/PC/PGS_PC_GetFileAttr_Driver_c.c
./test_drivers/PC/PGS_PC_GetFileByAttr_Driver_c.c
./test_drivers/PC/PGS_PC_GetFileAttr_Driver_f.f
./test_drivers/PC/PGS_PC_GetFileByAttr_Driver_f.f
./test_drivers/PC/makefile.f90
./test_drivers/PC/modis.attr1999_017
./test_drivers/PC/modis.attr1999_018
./test_drivers/PC/modis.attr1999_019
./test_drivers/PC/modis.attr1999_020
./test_drivers/PC/modis.v1999_017
./test_drivers/PC/modis.v1999_018
./test_drivers/PC/modis.v1999_019
./test_drivers/PC/modis.v1999_020
./test_drivers/PC/PGS_PC_GenUniqueId_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GenUniqueId_Driver_f.out_sample
./test_drivers/PC/PGS_PC_GetConfigData_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetConfigData_Driver_f.out_sample
./test_drivers/PC/PGS_PC_GetFileByAttr_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetFileByAttr_Driver_f.out_sample
```

```
./test_drivers/PC/PGS_PC_GetNumberOfFiles_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetNumberOfFiles_Driver_f.out_sample
./test_drivers/PC/PGS_PC_GetReference_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetReference_Driver_f.out_sample
./test_drivers/PC/PGS_PC_GenUniqueId_Driver.in
./test_drivers/PC/PGS_PC_GetConfigData_Driver.in
./test_drivers/PC/PGS_PC_GetFileAttr_Driver.in
./test_drivers/PC/PGS_PC_GetFileByAttr_Driver.in
./test_drivers/PC/PGS_PC_GetNumberOfFiles_Driver.in
./test_drivers/PC/PGS_PC_GetReference_Driver.in
./test_drivers/PC/PGS_PC_GetFileAttr_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetFileAttr_Driver_f.out_sample
./test_drivers/PC/README.PC
./test_drivers/PC/PGS_PC_GetConfigDataCom_Driver.in
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.csh.in
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.sh.in
./test_drivers/PC/PGS_PC_GetNumberOfFilesCom_Driver.in
./test_drivers/PC/PGS_PC_GetReferenceCom_Driver.in
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.csh.in
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.sh.in
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.csh.in
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.sh.in
./test_drivers/PC/PGS_PC_GetConfigDataCom_Driver.sh
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.sh
./test_drivers/PC/PGS_PC_GetNumberOfFilesCom_Driver.sh
./test_drivers/PC/PGS_PC_GetReferenceCom_Driver.sh
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.sh
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.sh
./test_drivers/PC/PGS_PC_GetConfigDataCom_Driver.csh
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.csh
./test_drivers/PC/PGS_PC_GetNumberOfFilesCom_Driver.csh
./test_drivers/PC/PGS_PC_GetReferenceCom_Driver.csh
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.csh
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.csh
./test_drivers/PC/modis.v1999_021
./test_drivers/PC/modis.attr1999_021
./test_drivers/PC/PGS_PC_GetConfigDataCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_GetConfigDataCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_GetFileAttrCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_GetNumberOfFilesCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_GetNumberOfFilesCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_GetReferenceCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_GetReferenceCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_GetTempReferenceCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.csh.out_sample
./test_drivers/PC/PGS_PC_TempDeleteCom_Driver.sh.out_sample
./test_drivers/PC/PGS_PC_GetReferenceType_Driver_c.c
./test_drivers/PC/PGS_PC_GetReferenceType_Driver_f.f
./test_drivers/PC/PGS_PC_GetReferenceType_Driver.in
./test_drivers/PC/PGS_PC_GetReferenceType_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetReferenceType_Driver_f.out_sample
./test_drivers/PC/PGS_PC_Shell_Driver.csh
./test_drivers/PC/PGS_PC_Shell_Driver.csh.out_sample
./test_drivers/PC/pctcheck.out_sample
./test_drivers/PC/PGS_PC_GetUniversalRef_Driver.in
./test_drivers/PC/PGS_PC_GetUniversalRef_Driver_c.c
```

```
./test_drivers/PC/PGS_PC_GetUniversalRef_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetUniversalRef_Driver_f.f
./test_drivers/PC/PGS_PC_GetUniversalRef_Driver_f.out_sample
./test_drivers/PC/PGS_PC_GetFileSize_Driver.in
./test_drivers/PC/PGS_PC_GetFileSize_Driver_c.c
./test_drivers/PC/PGS_PC_GetFileSize_Driver_c.out_sample
./test_drivers/PC/PGS_PC_GetFileSize_Driver_f.f
./test_drivers/PC/PGS_PC_GetFileSize_Driver_f.out_sample
./test_drivers/SMF/
./test_drivers/SMF/PGS_SMF_GetActionCode_Driver_f.f
./test_drivers/SMF/PGS_SMF_GetInstrName_Driver_f.f
./test_drivers/SMF/PGS_SMF_GetMsgByCode_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestNoticeLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestStatusLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestFatalLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestUserInfoLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestWarningLevel_Driver_f.f
./test_drivers/SMF/makefile
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver_c.c
./test_drivers/SMF/PGS_SMF_GetInstrName_Driver_c.c
./test_drivers/SMF/PGS_SMF_GetMsg_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestErrorLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver_f.f
./test_drivers/SMF/PGS_SMF_GenerateStatusReport_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestNoticeLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestStatusLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestSuccessLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestUserInfoLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestWarningLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestMessageLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestMessageLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestSuccessLevel_Driver_f.f
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver_c.c
./test_drivers/SMF/PGS_SMF_GetActionCode_Driver_c.c
./test_drivers/SMF/PGS_SMF_TestFatalLevel_Driver_c.c
./test_drivers/SMF/PGS_SMF_GenerateStatusReport_Driver_c.c
./test_drivers/SMF/makefile.f90
./test_drivers/SMF/PGS_SMF_GetMsgByCode_Driver_c.c
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver_f.f
./test_drivers/SMF/PGS_SMF_GetMsg_Driver_f.f
./test_drivers/SMF/PGS_SMF_TestErrorLevel_Driver_f.f
./test_drivers/SMF/README.SMF
./test_drivers/SMF/AVHRR_99.t
./test_drivers/SMF.netrc
./test_drivers/SMF/PGS_SMF_GenerateStatusReport_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_GenerateStatusReport_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_GetActionCode_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_GetActionCode_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_GetInstrName_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_GetInstrName_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_GetMsgByCode_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_GetMsgByCode_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_GetMsg_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_GetMsg_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestStatusLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestStatusLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_GenerateStatusReport_Driver.in
./test_drivers/SMF/PGS_SMF_GetActionCode_Driver.in
```

```
./test_drivers/SMF/PGS_SMF_GetInstrName_Driver.in
./test_drivers/SMF/PGS_SMF_GetMsg_Driver.in
./test_drivers/SMF/PGS_SMF_GetMsgByCode_Driver.in
./test_drivers/SMF/PGS_SMF_TestStatusLevel_Driver.in
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver1.in
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver2.in
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver1.in
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver2.in
./test_drivers/SMF/PGS_SMF_TestErrorLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestFatalLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestMessageLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestNoticeLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestSuccessLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestUserInfoLevel_Driver.in
./test_drivers/SMF/PGS_SMF_TestWarningLevel_Driver.in
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver1_c.out_sample
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver1_f.out_sample
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver2_c.out_sample
./test_drivers/SMF/PGS_SMF_CreateMsgTag_Driver2_f.out_sample
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver1_c.out_sample
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver1_f.out_sample
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver2_c.out_sample
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver2_f.out_sample
./test_drivers/SMF/PGS_SMF_TestErrorLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestErrorLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestFatalLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestFatalLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestMessageLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestMessageLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestNoticeLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestNoticeLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestSuccessLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestSuccessLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestUserInfoLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestUserInfoLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_SMF_TestWarningLevel_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_TestWarningLevel_Driver_f.out_sample
./test_drivers/SMF/PGS_99_sample
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver_c.csh
./test_drivers/SMF/PGS_SMF_SendRuntimeData_Driver_f.csh
./test_drivers/SMF/PGS_SMF_EventLogger_Driver.csh
./test_drivers/SMF/PGS_SMF_EventLogger_Driver.in
./test_drivers/SMF/PGS_SMF_EventLogger_Driver_c.c
./test_drivers/SMF/PGS_SMF_EventLogger_Driver_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver.csh
./test_drivers/SMF/PGS_SMF_LogStatus_Driver_c.c
./test_drivers/SMF/PGS_SMF_LogStatus_Driver10_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver11_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver12_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver13_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver14_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver15_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver16_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver17_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver18_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver19_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver1_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver2_c.out_sample
```

```
./test_drivers/SMF/PGS_SMF_LogStatus_Driver3_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver4_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver5_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver6_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver7_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver8_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver9_c.out_sample
./test_drivers/SMF/PGS_SMF_LogStatus_Driver_f.f
./test_drivers/TD/
./test_drivers/TD/PGS_TD_ASCIItime_AtoB_Driver_c.c
./test_drivers/TD/PGS_TD_ASCIItime_BtoA_Driver_c.c
./test_drivers/TD/PGS_TD_GPSstoUTC_Driver_c.c
./test_drivers/TD/PGS_TD_TAItoUTC_Driver_c.c
./test_drivers/TD/PGS_TD_TimeInterval_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToGPS_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToTAI_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToTDTjed_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToUT1_Driver_c.c
./test_drivers/TD/PGS_TD_SCtime_to_UTC_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToSCtime_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToTDBjed_Driver_c.c
./test_drivers/TD/makefile
./test_drivers/TD/PGS_TD_ASCIItime_AtoB_Driver_f.f
./test_drivers/TD/PGS_TD_ASCIItime_BtoA_Driver_f.f
./test_drivers/TD/PGS_TD_GPSstoUTC_Driver_f.f
./test_drivers/TD/PGS_TD_TAItoUTC_Driver_f.f
./test_drivers/TD/PGS_TD_TimeInterval_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToGPS_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToTAI_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToTDBjed_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToTDTjed_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToUT1_Driver_f.f
./test_drivers/TD/PGS_TD_SCtime_to_UTC_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToSCtime_Driver_f.f
./test_drivers/TD/makefile.f90
./test_drivers/TD/PGS_TD_GPSstoUTC_Driver.in
./test_drivers/TD/PGS_TD_TAItoUTC_Driver.in
./test_drivers/TD/PGS_TD_TimeInterval_Driver.in
./test_drivers/TD/PGS_TD_UTCToGPS_Driver.in
./test_drivers/TD/PGS_TD_UTCToTAI_Driver.in
./test_drivers/TD/PGS_TD_UTCToTDBjed_Driver.in
./test_drivers/TD/PGS_TD_UTCToTDTjed_Driver.in
./test_drivers/TD/PGS_TD_UTCToUT1_Driver.in
./test_drivers/TD/README.TD
./test_drivers/TD/PGS_TD_ASCIItime_AtoB_Driver.in
./test_drivers/TD/PGS_TD_ASCIItime_BtoA_Driver.in
./test_drivers/TD/PGS_TD_ASCIItime_BtoA_Driver_c.out_sample
./test_drivers/TD/PGS_TD_ASCIItime_AtoB_Driver_c.out_sample
./test_drivers/TD/PGS_TD_ASCIItime_AtoB_Driver_f.out_sample
./test_drivers/TD/PGS_TD_GPSstoUTC_Driver_f.out_sample
./test_drivers/TD/PGS_TD_GPSstoUTC_Driver_c.out_sample
./test_drivers/TD/PGS_TD_SCtime_to_UTC_Driver.in
./test_drivers/TD/PGS_TD_SCtime_to_UTC_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TAItoUTC_Driver_f.out_sample
./test_drivers/TD/PGS_TD_TAItoUTC_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TimeInterval_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TimeInterval_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToSCtime_Driver.in
```

```
./test_drivers/TD/PGS_TD_UTC_to_SCtime_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTC_to_SCtime_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToGPS_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToGPS_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToTAI_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToTAI_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToTDBjed_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToTDBjed_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToTDTjed_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToTDTjed_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToUT1_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToUT1_Driver_f.out_sample
./test_drivers/TD/PGS_TD_ASCltime_BtoA_Driver_f.out_sample
./test_drivers/TD/PGS_TD_SCtime_to_UTC_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToUT1jd_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToUT1jd_Driver_f.f
./test_drivers/TD/PGS_TD_TAItoGAST_Driver_c.c
./test_drivers/TD/PGS_TD_TAItoGAST_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToUT1jd_Driver.in
./test_drivers/TD/PGS_TD_UTCToUT1jd_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToUT1jd_Driver_f.out_sample
./test_drivers/TD/PGS_TD_TAItoGAST_Driver.in
./test_drivers/TD/PGS_TD_TAItoGAST_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TAItoGAST_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCToUTCjd_Driver.in
./test_drivers/TD/PGS_TD_UTCToUTCjd_Driver_c.c
./test_drivers/TD/PGS_TD_UTCToUTCjd_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCToUTCjd_Driver_f.f
./test_drivers/TD/PGS_TD_UTCToUTCjd_Driver_f.out_sample
./test_drivers/TD/PGS_TD_UTCjdtoUTC_Driver.in
./test_drivers/TD/PGS_TD_UTCjdtoUTC_Driver_c.c
./test_drivers/TD/PGS_TD_UTCjdtoUTC_Driver_c.out_sample
./test_drivers/TD/PGS_TD_UTCjdtoUTC_Driver_f.f
./test_drivers/TD/PGS_TD_UTCjdtoUTC_Driver_f.out_sample
./test_drivers/TD/PGS_TD_TAItoTAIjd_Driver.in
./test_drivers/TD/PGS_TD_TAItoTAIjd_Driver_c.c
./test_drivers/TD/PGS_TD_TAItoTAIjd_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TAItoTAIjd_Driver_f.f
./test_drivers/TD/PGS_TD_TAIjdtoTAI_Driver.in
./test_drivers/TD/PGS_TD_TAIjdtoTAI_Driver_c.c
./test_drivers/TD/PGS_TD_TAIjdtoTAI_Driver_c.out_sample
./test_drivers/TD/PGS_TD_TAIjdtoTAI_Driver_f.f
./test_drivers/TD/PGS_TD_TAIjdtoTAI_Driver_f.out_sample
./test_drivers/TD/PGS_TD_LeapSec_Driver.in
./test_drivers/TD/PGS_TD_LeapSec_Driver_c.c
./test_drivers/TD/PGS_TD_LeapSec_Driver_c.out_sample
./test_drivers/TD/PGS_TD_LeapSec_Driver_f.f
./test_drivers/TD/PGS_TD_LeapSec_Driver_f.out_sample
./test_drivers/README
./test_drivers/Common/
./test_drivers/Common/Create_filename_f90.f
./test_drivers/Common/Create_filename_f77.f
./test_drivers/Common/rundrivers.csh
./test_drivers/Common/runMEM.csh
./test_drivers/Common/runPC.csh
./test_drivers/Common/runSMF.csh
./test_drivers/Common/cleanup.csh
```

```
./test_drivers/Common/orbsim.in
./test_drivers/Common/runL0.csh
./test_drivers/Common/runIO.csh
./test_drivers/Common/runAA.csh
./test_drivers/Common/runTests
./test_drivers/Common/PCF.baseline
./test_drivers/Common/createPCF.csh
./test_drivers/Common/runMET.csh
./test_drivers/Common/README.script
./test_drivers/Common/runCBP.csh
./test_drivers/Common/runCSC.csh
./test_drivers/Common/runEPH.csh
./test_drivers/Common/runTD.csh
./test_drivers/Common/leapsec.dat.REL_B0
./test_drivers/Common/runDEM.csh
./test_drivers/Common/utcpole.dat.REL_B0
./test_drivers/DEM/
./test_drivers/DEM/PGS_DEM_Driver.in
./test_drivers/DEM/PGS_DEM_Driver_c.c
./test_drivers/DEM/PGS_DEM_Driver_c.out_sample
./test_drivers/DEM/PGS_DEM_Driver_f.f
./test_drivers/DEM/PGS_DEM_Driver_f.out_sample
./test_drivers/DEM/README.DEM
./test_drivers/DEM/makefile
./test_drivers/DEM/makefile.f90
```

### 4.3 Hierarchical Data Files Listing

Release B Toolkit 5.2 “HDF4.1r1.tar.Z” tar file listing follows:

```
HDF4.1r1/
HDF4.1r1/config/
HDF4.1r1/config/mh-aix
HDF4.1r1/config/mh-alpha
HDF4.1r1/config/mh-cm5
HDF4.1r1/config/mh-convex
HDF4.1r1/config/mh-decstation
HDF4.1r1/config/mh-fbsd
HDF4.1r1/config/mh-fujivp
HDF4.1r1/config/mh-hpux
HDF4.1r1/config/mh-irix32
HDF4.1r1/config/mh-irix4
HDF4.1r1/config/mh-irix5
HDF4.1r1/config/mh-irix6
HDF4.1r1/config/mh-linux
HDF4.1r1/config/mh-mac
HDF4.1r1/config/mh-solaris
HDF4.1r1/config/mh-solarisx86
HDF4.1r1/config/mh-sun
HDF4.1r1/config/mh-t3d
HDF4.1r1/config/mh-unicos
HDF4.1r1/hdf/
HDF4.1r1/hdf/fmpool/
HDF4.1r1/hdf/fmpool/config/
HDF4.1r1/hdf/fmpool/config/fmpaix.h
HDF4.1r1/hdf/fmpool/config/fmpalpha.h
HDF4.1r1/hdf/fmpool/config/fmpcm5.h
HDF4.1r1/hdf/fmpool/config/fmpconvex.h
HDF4.1r1/hdf/fmpool/config/fmpdec.h
```

HDF4.1r1/hdf/fmpool/config/fmpfbasd.h  
HDF4.1r1/hdf/fmpool/config/fmpfujvp.h  
HDF4.1r1/hdf/fmpool/config/fmphpux.h  
HDF4.1r1/hdf/fmpool/config/fmpirix32.h  
HDF4.1r1/hdf/fmpool/config/fmpirix4.h  
HDF4.1r1/hdf/fmpool/config/fmpirix5.h  
HDF4.1r1/hdf/fmpool/config/fmpirix6.h  
HDF4.1r1/hdf/fmpool/config/fmplinux.h  
HDF4.1r1/hdf/fmpool/config/fmpmac.h  
HDF4.1r1/hdf/fmpool/config/fmpsolaris.h  
HDF4.1r1/hdf/fmpool/config/fmpsun.h  
HDF4.1r1/hdf/fmpool/config/fmpt3d.h  
HDF4.1r1/hdf/fmpool/config/fmpunicos.h  
HDF4.1r1/hdf/fmpool/config/mh-aix  
HDF4.1r1/hdf/fmpool/config/mh-alpha  
HDF4.1r1/hdf/fmpool/config/mh-cm5  
HDF4.1r1/hdf/fmpool/config/mh-convex  
HDF4.1r1/hdf/fmpool/config/mh-decstation  
HDF4.1r1/hdf/fmpool/config/mh-fbsd  
HDF4.1r1/hdf/fmpool/config/mh-fujvp  
HDF4.1r1/hdf/fmpool/config/mh-hpux  
HDF4.1r1/hdf/fmpool/config/mh-irix32  
HDF4.1r1/hdf/fmpool/config/mh-irix4  
HDF4.1r1/hdf/fmpool/config/mh-irix5  
HDF4.1r1/hdf/fmpool/config/mh-irix6  
HDF4.1r1/hdf/fmpool/config/mh-linux  
HDF4.1r1/hdf/fmpool/config/mh-mac  
HDF4.1r1/hdf/fmpool/config/mh-solaris  
HDF4.1r1/hdf/fmpool/config/mh-sun  
HDF4.1r1/hdf/fmpool/config/mh-t3d  
HDF4.1r1/hdf/fmpool/config/mh-unicos  
HDF4.1r1/hdf/fmpool/Makefile.in  
HDF4.1r1/hdf/fmpool/README  
HDF4.1r1/hdf/fmpool/cdefs.h  
HDF4.1r1/hdf/fmpool/compat.h  
HDF4.1r1/hdf/fmpool/config.guess  
HDF4.1r1/hdf/fmpool/config.sub  
HDF4.1r1/hdf/fmpool/configure  
HDF4.1r1/hdf/fmpool/configure.in  
HDF4.1r1/hdf/fmpool/fmpio.3  
HDF4.1r1/hdf/fmpool/fmpio.c  
HDF4.1r1/hdf/fmpool/fmpio.h  
HDF4.1r1/hdf/fmpool/fmpool.3  
HDF4.1r1/hdf/fmpool/fmpool.c  
HDF4.1r1/hdf/fmpool/fmpool.h  
HDF4.1r1/hdf/fmpool/fmptypes.h  
HDF4.1r1/hdf/fmpool/move-if-change  
HDF4.1r1/hdf/fmpool/queue.h  
HDF4.1r1/hdf/fmpool/test\_fmpio.c  
HDF4.1r1/hdf/fmpool/tfmpio\_read.c  
HDF4.1r1/hdf/fmpool/tfmpio\_write.c  
HDF4.1r1/hdf/jpeg/  
HDF4.1r1/hdf/jpeg/config/  
HDF4.1r1/hdf/jpeg/config/jaix.h  
HDF4.1r1/hdf/jpeg/config/jalpha.h  
HDF4.1r1/hdf/jpeg/config/jcm5.h  
HDF4.1r1/hdf/jpeg/config/jconvex.h  
HDF4.1r1/hdf/jpeg/config/dec.h

HDF4.1r1/hdf/jpeg/config/jfbasd.h  
HDF4.1r1/hdf/jpeg/config/jfujivp.h  
HDF4.1r1/hdf/jpeg/config/jhpu.h  
HDF4.1r1/hdf/jpeg/config/jirix32.h  
HDF4.1r1/hdf/jpeg/config/jirix4.h  
HDF4.1r1/hdf/jpeg/config/jirix5.h  
HDF4.1r1/hdf/jpeg/config/jirix6.h  
HDF4.1r1/hdf/jpeg/config/jlinux.h  
HDF4.1r1/hdf/jpeg/config/jmac.h  
HDF4.1r1/hdf/jpeg/config/jsolaris.h  
HDF4.1r1/hdf/jpeg/config/jsun.h  
HDF4.1r1/hdf/jpeg/config/jt3d.h  
HDF4.1r1/hdf/jpeg/config/junicos.h  
HDF4.1r1/hdf/jpeg/config/jwin32.h  
HDF4.1r1/hdf/jpeg/config/mh-aix  
HDF4.1r1/hdf/jpeg/config/mh-alpha  
HDF4.1r1/hdf/jpeg/config/mh-cm5  
HDF4.1r1/hdf/jpeg/config/mh-convex  
HDF4.1r1/hdf/jpeg/config/mh-decstation  
HDF4.1r1/hdf/jpeg/config/mh-fbsd  
HDF4.1r1/hdf/jpeg/config/mh-fujivp  
HDF4.1r1/hdf/jpeg/config/mh-hpx  
HDF4.1r1/hdf/jpeg/config/mh-irix32  
HDF4.1r1/hdf/jpeg/config/mh-irix4  
HDF4.1r1/hdf/jpeg/config/mh-irix5  
HDF4.1r1/hdf/jpeg/config/mh-irix6  
HDF4.1r1/hdf/jpeg/config/mh-linux  
HDF4.1r1/hdf/jpeg/config/mh-mac  
HDF4.1r1/hdf/jpeg/config/mh-solaris  
HDF4.1r1/hdf/jpeg/config/mh-sun  
HDF4.1r1/hdf/jpeg/config/mh-t3d  
HDF4.1r1/hdf/jpeg/config/mh-unicos  
HDF4.1r1/hdf/jpeg/config/win32jpg.mak  
HDF4.1r1/hdf/jpeg/Makefile.in  
HDF4.1r1/hdf/jpeg/README  
HDF4.1r1/hdf/jpeg/ansi2knr.1  
HDF4.1r1/hdf/jpeg/ansi2knr.c  
HDF4.1r1/hdf/jpeg/cderror.h  
HDF4.1r1/hdf/jpeg/cdjpeg.c  
HDF4.1r1/hdf/jpeg/cdjpeg.h  
HDF4.1r1/hdf/jpeg/change.log  
HDF4.1r1/hdf/jpeg/cjpeg.1  
HDF4.1r1/hdf/jpeg/cjpeg.c  
HDF4.1r1/hdf/jpeg/ckconfig.c  
HDF4.1r1/hdf/jpeg/coderules.doc  
HDF4.1r1/hdf/jpeg/configure.gnu  
HDF4.1r1/hdf/jpeg/configure.in  
HDF4.1r1/hdf/jpeg/djpeg.1  
HDF4.1r1/hdf/jpeg/djpeg.c  
HDF4.1r1/hdf/jpeg/example.c  
HDF4.1r1/hdf/jpeg/filelist.doc  
HDF4.1r1/hdf/jpeg/install.doc  
HDF4.1r1/hdf/jpeg/jcapimin.c  
HDF4.1r1/hdf/jpeg/jcapistd.c  
HDF4.1r1/hdf/jpeg/jccoeffct.c  
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HDF4.1r1/mfhdf/fortran/config/netcdf-solarisx86.inc  
HDF4.1r1/mfhdf/fortran/config/netcdf-sun.inc  
HDF4.1r1/mfhdf/fortran/config/netcdf-t3d.inc  
HDF4.1r1/mfhdf/fortran/config/netcdf-unicos.inc  
HDF4.1r1/mfhdf/fortran/msoft/  
HDF4.1r1/mfhdf/fortran/msoft/NOTES  
HDF4.1r1/mfhdf/fortran/msoft/fslen.asm  
HDF4.1r1/mfhdf/fortran/msoft/ftest.for  
HDF4.1r1/mfhdf/fortran/msoft/jackets.c  
HDF4.1r1/mfhdf/fortran/msoft/msoft.int

HDF4.1r1/mfhdf/fortran/msoft/netcdf.inc  
HDF4.1r1/mfhdf/fortran/Linux.m4  
HDF4.1r1/mfhdf/fortran/Makefile.in  
HDF4.1r1/mfhdf/fortran/Makefile.in\_orig  
HDF4.1r1/mfhdf/fortran/README  
HDF4.1r1/mfhdf/fortran/aix.m4  
HDF4.1r1/mfhdf/fortran/common.inc  
HDF4.1r1/mfhdf/fortran/common.m4  
HDF4.1r1/mfhdf/fortran/convex.m4  
HDF4.1r1/mfhdf/fortran/depend  
HDF4.1r1/mfhdf/fortran/descrip.mms  
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HDF4.1r1/mfhdf/fortran/fortc1.sed  
HDF4.1r1/mfhdf/fortran/fortc2.sed  
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HDF4.1r1/mfhdf/fortran/ultrix.m4  
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HDF4.1r1/mfhdf/libsrc/config/netcdf-vms.h  
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HDF4.1r1/mfhdf/libsrc/Makefile.in\_orig  
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HDF4.1r1/mfhdf/libsrc/array.c  
HDF4.1r1/mfhdf/libsrc/attr.c  
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HDF4.1r1/mfhdf/libsrc/cdftest.PPC-project.hqx  
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HDF4.1r1/mfhdf/libsrc/cdftest.mak  
HDF4.1r1/mfhdf/libsrc/depend  
HDF4.1r1/mfhdf/libsrc/descrip.mms  
HDF4.1r1/mfhdf/libsrc/dim.c  
HDF4.1r1/mfhdf/libsrc/error.c  
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HDF4.1r1/mfhdf/libsrc/file.c  
HDF4.1r1/mfhdf/libsrc/globdef.c  
HDF4.1r1/mfhdf/libsrc/hdf2netcdf.h  
HDF4.1r1/mfhdf/libsrc/hdfout.sav  
HDF4.1r1/mfhdf/libsrc/hdfsds.c  
HDF4.1r1/mfhdf/libsrc/hdftest.68k-project.hqx  
HDF4.1r1/mfhdf/libsrc/hdftest.PPC-project.hqx  
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HDF4.1r1/mfhdf/libsrc/msoft.mk  
HDF4.1r1/mfhdf/libsrc/netcdf.h.in  
HDF4.1r1/mfhdf/libsrc/nssdc.c  
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HDF4.1r1/mfhdf/libsrc/testout.sav  
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HDF4.1r1/mfhdf/libsrc/win32cdf.mak  
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HDF4.1r1/mfhdf/ncdump/Makefile.in\_orig

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HDF4.1r1/mfhdf/ncdump/depend  
HDF4.1r1/mfhdf/ncdump/dumplib.c  
HDF4.1r1/mfhdf/ncdump/dumplib.h  
HDF4.1r1/mfhdf/ncdump/make.com  
HDF4.1r1/mfhdf/ncdump/msoft.mk  
HDF4.1r1/mfhdf/ncdump/msofttab.c  
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HDF4.1r1/mfhdf/ncgen/Makefile.in\_orig  
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HDF4.1r1/mfhdf/ncgen/depend  
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HDF4.1r1/mfhdf/nctest/add.h

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HDF4.1r1/mfhdf/util/msoft.mk  
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HDF4.1r1/mfhdf/xdr/Makefile.in\_orig  
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HDF4.1r1/mfhdf/xdr/README  
HDF4.1r1/mfhdf/xdr/byteordr.c

HDF4.1r1/mfhdf/xdr/depend  
HDF4.1r1/mfhdf/xdr/descrip.mms  
HDF4.1r1/mfhdf/xdr/htonl.mar  
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HDF4.1r1/mfhdf/xdr/msoft.mk  
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HDF4.1r1/mfhdf/xdr/testout.sav  
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HDF4.1r1/mfhdf/xdr/xdrfloat.c  
HDF4.1r1/mfhdf/xdr/xdrlib.68k-project.hqx  
HDF4.1r1/mfhdf/xdr/xdrlib.PPC-project.hqx  
HDF4.1r1/mfhdf/xdr/xdrstdio.c  
HDF4.1r1/mfhdf/xdr/xdrtest.68k-project.hqx  
HDF4.1r1/mfhdf/xdr/xdrtest.PPC-project.hqx  
HDF4.1r1/mfhdf/xdr/xdrtest.c  
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HDF4.1r1/release\_notes/Examples\_CM5/Makefile  
HDF4.1r1/release\_notes/Examples\_CM5/example.cs  
HDF4.1r1/release\_notes/ABOUT\_4.1r1  
HDF4.1r1/release\_notes/Fortran\_APIs.txt  
HDF4.1r1/release\_notes/bugs\_fixed.txt  
HDF4.1r1/release\_notes/compile.txt  
HDF4.1r1/release\_notes/install\_winNT.txt  
HDF4.1r1/release\_notes/parallel\_CM5.txt  
HDF4.1r1/release\_notes/sd\_chunk\_examples.txt  
HDF4.1r1/release\_notes/vattr.txt

## 4.4 Documentation

The document provided with this release is:

Document Number: 333-CD-004-001

Title: Release B.0 SCF Toolkit Users Guide for the ECS Project

Delivery Source: Hardcopy, WEB

## 4.5 Archive Tape

The following magnetic tape is used to archive the delivered baseline configuration of the developed software.

**904-PR-036-001**

Tape label: ECS RELB TOOLKIT 5.2 v1.00

Distribution Date: Apr 28, 1997

>>> 3.0gbyte format (low density) <<<

Filename: HDF4.1r1.tar.Z

SDPTK5.2v1.00\_TestDrivers.README

SDPTK5.2v1.00\_TestDrivers.tar.Z

SDPTK5.1v1.00-Aadata.README

SDPTK5.1v1.00-AAdata.tar.Z

SDPTK5.2v1.00.README

SDPTK5.2v1.00.tar.Z

## 5. Non-Conformance Status

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### 5.1 Known Problems with Release B.0 Toolkit 5.2

This section contains the list of problems closed (Section 5.2) and known problems (Section 5.3) as of 4/28/97 in the Release B.0 Toolkit 5.2 Version 1.00 delivery. These problems were found and recorded during unit and integration testing or discovered by users of the previous version of the Toolkit and captured in the formal problem tracking system, Distributed Defect Tracking System (DDTS). The DDTS system generated the attached list of "closed" NCRs. This list has been reviewed by HITC management and Release Toolkit is considered to be acceptable for delivery at this time. The list includes the NCR ID, Title, Description, and Status. DDTS Problem Severity Definitions, on a 1-5 scale, are defined as follows:

- 1 Catastrophic and unrecoverable!  
Example: system crash or lost user data.
- 2 Severely broken and no workaround.  
Example: can't use major product function.
- 3 A defect that needs to be fixed but there is a workaround.  
Example: user data must be modified to work.
- 4 A defect that causes small impact. Easy to recover or workaround.  
Example: error messages aren't very clear.
- 5 Trivial defect or enhancement request.  
Example: bad layout or misuse of grammar in manual.

### 5.2 Release B.0 Toolkit 5.2 Non-Conformance Reports (Closed Status)

The following Toolkit open problems, listed in numerical order, were closed with the Release B.0 Toolkit 5.2 delivery:

**ID:** **ECSed00110**

**Tool:** IO\_Gen\_Open

**Title:** Unexpected results from AppendUpdate mode

**Severity:** 2

**Description:** I ran the following test case:

1. open a file with PGSD\_IO\_Gen\_AppendUpdate mode
2. read a 80 character string from the file
3. write a double precision number to the file
4. close the file

When I looked at the data file after this test was run, the string that was read in had been appended to the end of the file, then the double precision number after that.

**Resolution:** The behavior on ALL supported platforms is the same in all \*VALID\* cases. The test scenario presented is NOT a valid case, i.e. the test case exercises a series of steps that ALL vendors claim is an invalid series of steps.

Here is the relevant section from the man page for fopen:

When a file is opened for update, both input and output may be done on the resulting stream. However, output may not be directly followed by input without an intervening fflush(), fseek(), fsetpos(), or rewind(), and input may not be directly followed by output without an intervening fseek(), fsetpos(), or rewind(), or an input operation that encounters end-of-file.

The test case presented attempts to do input and then output without the appropriate intervening C function call (see above). When the file is opened for update it is opened with the file pointer at the end of the file. The test procedure should be modified to do the following:

1. open a file with PGSd\_IO\_Gen\_AppendUpdate mode 1.5 seek to the read position
2. read a 80 character string from the file 2.5 seek to the end of the file
3. write a double precision number to the file
4. close the file

This will work correctly in all cases.

**ID:** **ECSed00283**

**Tool:** PGS\_IO\_Gen\_Close

**Title:** Inconsistent message returned on the HP.

**Severity:** 5

**Description:** On the HP(adriatic), scerario (Error Case):

1. Open an existing file in Append mode(total of 240 bytes)
2. fseek from current spot -120 bytes
3. read one byte from the file(received a general file error (correct))
4. write a string of 80 bytes (appends to the end of the file (correct))
5. close the file - receive the following error:

ERROR: PGSIO\_E\_GEN\_CLOSE: Generic IO - Attempt to close file failed.  
return status was equal to 11798

This also happens when you try to read from a file that was opened for Write and then close it.

**Resolution:** This is not a bug with the toolkit. The toolkit, however, did provide a work around. Before closing the file the error buffer is cleared. This took care of the problem on the HP (the other platforms did not exhibit the problem at all). It looks like the new HP version (10.01) has also fixed the problem. Either way, it is fixed now (and actually was fixed as of TK5.1.1).

In the function PGS\_IO\_Gen\_Close(), the error buffer is cleared (using the C function clearerr()) before calling fclose().This eliminated the problem.

**ID:** **ECSed00986**  
**Tool:** AA,CUC,HDF  
**Title:** Some tools don't work on the CRAY.  
**Severity:** 3  
**Description:** The following is a list of problems on the CRAY ('charney.gsfc.nasa.gov'):   
**Resolution:** Cray is no longer supported.

**ID:** **ECSed03088**  
**Tool:** AA Tools  
**Title:** Output difference in PGS\_AA\_dem\_double in several modes on SGI PC  
**Severity:** 3  
**Description:** When running PGS\_AA\_dem\_double\_Driver\_c on the SGI Power Challenge (spre1sgi) in several modes (old32-f77, old32-f90, scf-f77, and scf-f90) the following difference occurs in each of the above modes:

```
< Machine Name - fire
---
> Machine Name - spre1sgi
4c4
< * * * * * - - - - -
PGS_AA_dem_double_Driver_c.out.Jul_7_13:38:17_1995 --
---
---
> * * * * * - - - - -
PGS_AA_dem_double_Driver_c.out.Aug_26_15:45:08_1996 --
---
7c7
< Start Date/Time: Fri Jul 7 13:38:17 1995
---
> Start Date/Time: Mon Aug 26 15:45:08 1996
46c46
< Result #3 : 0.000000
---
> Result #3 : nan0xf2e400fb
```

**Resolution:** In this particular case the point was not found which was correctly indicated by the version array containing -1 in the third element. The difference occurs because the result array is not initialized and for this particular test the routine only fills the first and the second element of the array leaving the third alone. The third element would contain anything that happens to be in that memory location. I suggest that the drivers be changed to incorporate the initialization of the result array so that we don't encounter this problem in the future.

**ID:** **ECSed03091**  
**Tool:** AA Tools  
**Title:** Output differences in PGS\_AA\_dem\_long (f77, f90) on SGI PC in 64bit mode  
**Severity:** 3  
**Description:** When running PGS\_AA\_dem\_long\_Driver\_f in 64bit mode (f77 and f90), the following differences occur:

```

<           Results (    2 ) =      10
---
>           Results (    2 ) =      0
51c51
<           Results (    3 ) =      0
---
>           Results (    3 ) =      10
  
```

**Resolution:** . The problem is that fortran users can't read a data file which is of type long and the 'long' is different from 'int'. This is the case on dec as well as the sgi in 64 bit mode where long is of 8 bytes and int is of 4. Fortran users has only one type at their disposal and that is 'integer'. On other machines 'int' is the same as 'long' and therefore fortran users can use files of long datatypes created on those machines. Datafiles created on dec or sgi (64 bit mode) contain data which is of 8 bytes for which fortran users have no way to access correctly.

This is why the results in this case show the data value in the 3rd element of the array instead of the 2nd element.

Also this cannot be checked in the tk since tk provides the facility to read data files of type long but created on machines where long is also of 4 bytes.

**ID:** **ECSed03692**  
**Tool:** GCT  
**Title:** Differences when test the forward and inverse for PGSD\_ORTHO  
**Severity:** 3  
**Description:** There are differences using both the c and the fortran drivers for testing the forward and inverse for PGSD\_ORTHO

X-coordinate # 1 :	47060223.813	sample
Y-coordinate # 1 :	2168263.883	
X-coordinate # 2 :	16215988.515	
Y-coordinate # 2 :	-1018071.448	
X-coordinate # 1 :	7019911.918	current
Y-coordinate # 1 :	2266160.071	
X-coordinate # 2 :	16215988.515	
Y-coordinate # 2 :	-1018071.448	

**Resolution:** First of all the problem was not in the orthographic projection but was in SOM projection. SOM initialization was modified to include the parameter "satellite ratio" which is fixed for the landsat satellites but could be different for other satellites. For this the projection parameter element[11] was chosen to contain the value. In order for the SOM to behave as before the test driver must provide the value 0.5201613 in the eleventh element of the parameter array.

**ID:** **ECSED04058**

**Tool:** MET

**Title:** Unable to convert HDF attribute getpc\_int into an ODL format

**Severity:** 3

**Description:** Difference file:

```
Unable to convert getpc_int into an ODL fromat  
because it was successful.  
< Toolkit return value:0  
> Toolkit return value:110106  
< PGS_S_SUCCESS: SUCCESSFUL operation  
> ERROR: PGSMET_E_FILETOODL_ERR: Unable to convert  
HDF attribute into an ODL format
```

Output file from Sep

```
--Toolkit Input Parameters--  
Operation :      getpc_int  
File Number :      5721  
Version Number :      1  
HDF Attribute Name :      ORBITDATA  
Attribute Name :      ORBITDATA  
--Toolkit Return Values--  
Toolkit return value:110106  
ERROR: PGSMET_E_FILETOODL_ERR: Unable to convert HDF  
attribute into an ODL format
```

**Resolution:** Not a bug. Test driver error.

**ID:** **ECSED04588**

**Tool:** AA

**Title:** Diff in dem\_long\_Driver on SGI5.3 f77 + f90 versions

**Severity:** 3

**Description:** Diff in the C driver for the dem\_long\_Driver

Result #3 : 0

---

> Result #3 : 262733824

Test Name: test case - test that correct results are returned for data of type long

--Toolkit Input Parameters--

Number of parameters : 1  
Parameter #1 : latitude  
Number of points : 3  
Longitude #1 : 15.0000000000  
Latitude #1 : 5.0000000000  
Longitude #2 : 20.0000000000  
Latitude #2 : 10.0000000000  
Longitude #3 : 21.0000000000  
Latitude #3 : 11.0000000000  
File Id : 10880  
Operation : 1

The above is the input for the test  
This is also happening on the f90 version also

**Resolution:** Same as ECS03088

**ID:** **ECSed05177**  
**Tool:** PGS\_MET\_Write  
**Title:** for non-HDF-EOS Metadata insert  
**Severity:** 2  
**Description:** Currently, DPS cannot perform Inserts of Non-HDF-EOS data files since the associated ASCII Metadata ODL files cannot be defined for the PCF. Not only that, but PGEs attempting to "dump" the metadata to the expected location will receive an error from the PGE\_MET\_Write() tool. This will most certainly cause the PGE to exit with a failure condition.  
**Resolution:** The source code of the function PGS\_MET\_Write() must be modified to behave differently when an ASCII dump of metadata is requested. Currently the program takes a user provided logical ID which is a reference to a physical file specified in the PCF and writes out the metadata to this file.  
The code must be modified to assume that the user provided logical ID is actually a RUNTIME PARAMETER that with a value indicating the logical ID and version of the non-HDF data file associated with the metadata.  
The format of the RUNTIME PARAMETER in the PCF is expected to be:  
<metadata\_id>|<comment>|<file\_logical>:<file\_version>  
where:  
<metadata\_id> is the user provided logical ID (input to PGS\_MET\_Write())  
<comment> is any comment  
<file\_logical> is the logical ID of the non-HDF output data file associated with the metadata  
<file\_version> is the file version of the non-HDF output data file associated with the metadata  
The Toolkit installation and set-up files will also have to be modified to allow this behavior to be visible ONLY at the DAAC.  
The following files will also be modified:

```

${PGSHOME}/bin/${BRAND}/INSTALL
${PGSHOME}/bin/${BRAND}/INSTALL-Toolkit
${PGSHOME}/bin/${BRAND}/tmp/pgs-dev-env.csh.tmp
${PGSHOME}/bin/${BRAND}/tmp/pgs-dev-env.ksh.tmp

```

<b>ID:</b>	<b>ECSed05856</b>
<b>Tool:</b>	PC/MET
<b>Title:</b>	ASTER PGE will not work in PDPS because of long file/path names
<b>Severity:</b>	1
<b>Description:</b>	<p>The ASTER Level 1B BTS PGE will not run in PDPS. Investigation revealed that this occurs because a file/path length constant defined in the SDP Toolkit is of insufficient length. This caused memory to be overwritten at runtime.</p> <p>Specifically, the ASTER PGE fails when calling Toolkit module PGS_MET_GetPCAttr.</p> <p>The error was traced to the definition</p> <pre>#define PGSD_PC_PATH_LENGTH_MAX 100 in SDP Toolkit include file PGS_PC.h .</pre> <p>For PDPS to work correctly this value must be changed to 1024.</p>
<b>Resolution:</b>	Allowed length of file name and path increased as described in problem enclosure
<b>ID:</b>	<b>ECSed05929</b>
<b>Tool:</b>	MET
<b>Title:</b>	Toolkit MET tools shall support all aspects of B.0 data
<b>Severity:</b>	1
<b>Description:</b>	<p>The Toolkit MET tools are required to operate correctly with the B.0 data model</p> <p>These are the specific changes required:</p> <p>The Toolkit must set the ProductionDateTime. All attributes where MANDATORY=TRUE are written whether or not values have been set, but errors generated only when the Data_Location=PGE and no value has been set.</p> <p>Write to the HDF file only those attributes with Data-Location set to MCF, PGE, TK or PCF.</p> <p>PGS_MET_GetPcAttr routine must be modified to return a different status code for "Bad ODL" and "Parameter Not Set".</p> <p>Product Specific Attributes must be locatable in the same way as core attributes: by shortname.</p> <p>The toolkit must be modified to handle the descriptor template syntax for declaring CLASS=M for groups within container objects.</p>
<b>Resolution:</b>	Implemented changes as described in problem
<b>ID:</b>	<b>ECSed06190</b>
<b>Tool:</b>	Shared Mem toolsPCF
<b>Title:</b>	Diff in SHM MEM tool on Power Challenge only
<b>Severity:</b>	3

**Description:** The SHM\_MEM tools is returning a different error message on the Power Challenge 32bit and 64bit than the other platforms.

Test Case: PGS\_SHM\_MEM\_Driver1.in

```
# The purpose of this test is to check whether or not PGS_MEM_ShmInit tool  
core
```

```
# dumps when it is used to initialize the large number of bytes.
```

SAMPLE

Test Name: Testing of core dump

```
--Toolkit Input Parameters--
```

Operation : init

```
Number of elements : 89000000
```

```
--Toolkit Return Values--
```

Toolkit return value: 247

NOTE: PGS\_E\_UNIX: ERRNO 22, Invalid argument

**Resolution:** The toolkit is returning the same error status it always has, namely PGS\_E\_UNIX. The only difference is that the errno message being set by UNIX has changed. This should not affect toolkit users any since (as stated above) the toolkit return value has not changed. Also, this difference is seen only in a "stress test" situation in which the test driver intentionally attempts to request an unreasonable amount of shared memory (89 MB).

Using the debugger it was verified that the errno is being set after the call to shmget (UNIX call to initialize shared memory). The errno being set is 22 which corresponds to EINVAL.

From the SGI man page for shmget:

EINVAL size is less than the system-imposed minimum or greater than the system-imposed maximum.

This is exactly the error condition being tested for and the error is exactly what one would expect.

**ID:** **ECSEd06282**

**Tool:** INSTALL script

**Title:** HDF install script does not work on AIX 4.1.5

**Severity:** 3

**Description:** This problem was reported by the MOPITT team. User Support Log number 961122.

The Toolkit install script does not work on AIX 4.1.5. This script modifies the read-only environment variable "LOGNAME".

This env variable problem has not appeared on any of our supported platforms for Toolkit 5.1.1. We will be using AIX 4.2 for Toolkit 5.2 and will modify the script then.

**Resolution:** Install script changed to not modify LOGNAME. Works on AIX 4.2 platform.

**ID:** **ECSed06283**  
**Tool:** PCF template  
**Title:** Logical IDs for the MET tools are not in PCF template  
**Severity:** 3  
**Description:** This problem was reported by the MOPITT team. User Support Log number 961122.  
THe MODIS team reported this problem. It is user support log number 961204. The architecture specific versions of the PCf templates do not have two entries for MET support files. THey are in the master PCf template. They just did not get copied to the brand specific copies.  
**Resolution:** Copied files correctly.

**ID:** **ECSed06284**  
**Tool:** PCF template  
**Title:** Add full directory path in PCF for all Toolkit files  
**Severity:** 3  
**Description:** This enhancement was requested by the MODIS team. It is user support log number 961215.  
The "PRODUCT INPUT FILES" section of the SDPTK PCF template lists many ancillary data files provided by ECS that are located (during toolkit installation) in the ~/runtime directory. This directory is also the default directory for this section of the PCF, and so the line entries for these files contain no explicit directory path (that is, they rely on the default directory).  
It would be beneficial to MODIS and other teams if all ECS-supplied files were entered into the PCF template with the directory path explicitly listed (as currently done under the "SUPPORT INPUT FILES" section, for example). That way, developers could reset the default directory to point to the location of team-supplied inputs to a PGE without otherwise having to edit the template provided by ECS.  
**Resolution:** Added directory to paths for Toolkit support files in PCF template.

**ID:** **ECSed06285**  
**Tool:** PCF temporary file  
**Title:** Need to be able to run simultaneous PGEs  
**Severity:** 3  
**Description:** This is an enhancement requested by the ASTER team. It is Toolkit user supportlog number 970113.  
We are seeing the Toolkit confuse one PCF with another PCF. What happens is this: if you run two tests simultaneously on the same machine, the log files from the two tests start to get mixed up - that is output from one test gets written to the report and status logs of the other test. Not only that, but the PCF of one test becomes mixed up with the PCF of another test. This happens even though the two tests are using differnt PCFs, different support output and temporary IO directories, and different log file names.

**Resolution:** The Toolkit was not designed to run simultaneous PGEs. The user is responsible for setting env variables so that the PGEs do not conflict, for the Log files, for example.

The PCF problems arise because there is only one temporary PCF that is used. And both PGEs are writing to it.

Altered source code so that the temporary PCF has a unique name for each PGE. They will not conflict then.

Reminder: the user is still responsible for setting the environment variables so that Log files, etc. do not conflict.

### 5.3 Release B.0 Toolkit Version 5.2 Non-Conformance Reports (Open Status)

The following NCRs are liens against the Toolkit 5.2 delivery:

**ID:** **ECSed00765**

**Tool:** SendRuntime,SendStat

**Title:** Files are not being sent when running on the HP and IBM.

**Severity:** 3

**Description:** While running on the HP, trying to send files to either of the following:

1. Adriatic itself
2. bering.hitc.com
3. eos.hitc.com

The files don't get sent. It was tried inside and outside of ClearCase, and when running the ftp command from the command line it works successfully.

The sun4, sgi and dec don't have any problems(ibm and sun5 are unavailable).

Added 2/21/95: After running on the ibm and sun5: sun5 successful, IBM UNSUCCESSFUL. I tried running on a different HP machine(catfish), same operating system, and it produced the same results.

Analysis To-Date: After 16 hours of analysis, a resolution is still unknown. Possible causes for the problem include memory-leak and/or OS configuration. ftp itself is not really suspect since it appears to function properly outside the current application. Further analysis will begin with the use of memory-leak detection tools.

**ID:** **ECSed00225**

**Tool:** ALL Toolkits

**Title:** Environment variable PGS\_PC\_INFO\_FILE

**Severity:** 4

**Description:** This NCR is purposely open to inform everyone that there is an inherent problem on the return status from almost all of the toolkits (IO, MEM, SMF, PC, etc.). The problem is due to not checking the return status from SMF toolkits such as PGS\_SMF\_SetStaticMsg(), PGS\_SMFSetDynamicMsg(), PGS\_SMF\_SetUNIXMsg() etc. An example would be in MEM tools when trying to set the appropriate error messages by calling SMF, SMF routine detects some environment variable and appropriately returns PGSSMF\_E\_LOGFILE or PGS\_E\_ENV to the MEM caller routine. Currently, the MEM routine does not

check the return status and proceeds to return MEM specific status; this is the current design. The problem comes about when the user calls PGS\_SMF\_GetMsg(). The static buffer error message does not agree with the return status from the MEM tool because the SMF tool, upon detecting an error, has overridden it. At this juncture, we are not sure of the appropriate step to take: have all tools potentially return SMF related errors, which creates more confusion because the user doesn't know the real outcome of his call to the tool, or perform some coupling with the SDPS processing system to let them know what happened and let it take corrective action. These are design issue which must be further explored. Some of the NCRs pertaining to MEM and SMF tools relate to this situation. Refer to enclosures SMF fixed and MEM fixed for further information.

Prob.Desc. from #214 :

From Bug ECSed00214 pgs\_toolkit Enclosure 1 of 6 IO\_tools

When the environment variable PGS\_PC\_INFO\_FILE isn't set, the IO tools core dump. It seems to also happen when the PGS\_TEMPORARY\_IO or the PGS\_INTERMEDIATE\_INPUT variables aren't set.

This could be a problem in the underlying PC tools that are called and have to use these environment variables.

Added 10/16/94: The problem still exists, here is a break-down so far:

All machines core-dump when the PGS\_PC\_INFO\_FILE isn't set.

sun5: Somehow makes the driver go into an infinite loop after return from open call.

sun4: Returns properly from open and temp\_open then dies at temp\_delete call.

sgi: Returns properly from open then dies at temp\_open call.

hpdec: Both die at the initial open call.

ibm: Unable to test - machine not responding.

Prob.Res. from #214:

From Bug ECSed00214 pgs\_toolkit Enclosure 2 of 6 IO\_tools

Added 941014: This problem was due to recursive avalanche between PC, IO & SMF functionality. This has been fixed by incorporating caller id checks within these 3 toolkit subgroups. The IO Tools no longer crash when the PCF environment variable is unset. However, the return value from the tool, and the message in the status buffer are no longer identical in this situation.

Further Analysis from #214 :

From Bug ECSed00214 pgs\_toolkit Enclosure 3 of 6IO\_tools

Added 941018: There a few problems, such as this one, which have begun to appear recently. After thorough analysis on the SGI & HP platforms, this engineer is convinced that the problem stems from a memory leak at lower levels. This conclusion is partly based on test results achieved when different drivers were used to duplicate the errors cited in this NCR. In short, this engineer's driver produces correct results under the conditions stated in the NCR, while the author's driver produces incorrect results i.e. it gives up the ghost. When an interactive debugging session was run using the author's driver, a segmentation fault occurs which places the instruction pointer in "deep" space instead of in user space i.e.

source code is no longer being pointed to. Other hints include incorrect results from code which used to work, but which now produce anomalous behavior. (specifically, the temporary name generation algorithm when run on the SGI under the conditions specified in the NCR)

Partial Solution from #214 :

From Bug ECSed00214 pgs\_toolkit Enclosure 5 of 6 IO\_tools

Added 950213: This problem, which has persisted since before TKO, would appear to have many causes. To this end, 2 of those causes have now been remedied. Some checks, concerning the retrieval of temporary I/O environment variables, missed the mark for TK3; this was the first correction. As of TK4, ALL environment variable checks are being performed properly. The second correction resulted from intense debugging of the author's IO/GEN test driver.

Using 'dbx', a section of low-level Process Control functionality became suspect. After isolating the offending functionality into a separate driver (see attachment "strchr driver"), the following results were achieved:

dec alpha	OSF1 v3.0	segmentation fault
sgi ip20 mips	IRIX 5.2	segmentation fault
sun5 sparc	SunOS 5.3	segmentation fault
sun4	SunOS 4.1.3	segmentation fault
hp 9000/735	HP-UX A.09.01	completed successfully

Although the documentation does not elaborate, it is clear that this tool cannot handle a null string as the search string input argument. To correct the problem in our code, I recommend that these calls be bypassed in the event that such a null condition exists.

The following files & lines are affected:

PGS_PC_BuildFileShm.c	206,211,253,259,290,295
PGS_PC_GetFileName.c	275,313
PGS_PC_GetIndex.c	224
PGS_PC_SkipCheck.c	264
PGS_PC_TermCom.c	660
PGS_SMF_Comp.c	2631
PGS_SMF_SendRuntimeData.c	528,726
PGS_SMF_SendStatusReport.c	563,586,609,645,653,661

Though this fix has corrected the problem when the author's driver was used, the testor's driver is currently reporting segmentation faults? when other environment variables are not set. The net result, once this fix is in place, is that the author can no longer duplicate, even partially, the testor's results. That is why this is only considered a partial solution. strchr driver from #214 :

From Bug ECSed00214 pgs\_toolkit Enclosure 6 of 6 IO\_tools

Added 950213:

```
#include      <stdio.h>
#include      <string.h>
#define        PGSD_PC_SLASH    '/'
main()
{
```

```

        char      fName[100];
        char      *reschr;
        int       n;

        n=0;
/*
    strcpy( fName, "how/are/you/today" );
*/
    strcpy( fName, " " );
    n = (int) strlen( fName );
    printf( "string has (%d) characters\n",n );
    fflush( stdout );

    reschr = strrchr( fName, (int) PGSD_PC_SLASH );
    n = (int) strlen( reschr );
    printf( "string has (%d) characters\n",n );
    fflush( stdout );
    if (n > 1)
    {
        printf( "This worked OK!\n" );
        fflush( stdout );
    }
    else
    {
        printf( "This did NOT work!\n" );
        fflush( stdout );
    }
}

```

**ID:** **ECSED01005**

**Tool:** Entire Toolkit

**Title:** Warning messages during installation.

**Severity:** 5

**Description:** Here are the warning messages, which are normal and have been reduced as much as possible, on the required platforms.

SUN5:

"PGS\_CUC\_Cons.c", line 244: warning: statement not reached

The following shift/reduce warning is inconsequential

yacc -d utparse.y

/OPS/CUSTOM/bin/TOOLKIT/include/FF formlist.c -o

/usr/ecs/OPS/CUSTOM/bin/TOOLKIT

```
/obj/sun5/AA/formlist.o  
"formlist.c", line 784: warning: end-of-loop code not reached  
  
/OPS/CUSTOM/bin/TOOLKIT/include/FF file2buf.c -o  
/usr/ecs/OPS/CUSTOM/bin/TOOLKIT  
/obj/sun5/AA/file2buf.o  
"file2buf.c", line 159: warning: newline not last character in file  
  
/OPS/CUSTOM/bin/TOOLKIT/include/FF tytoty.c -o  
/usr/ecs/OPS/CUSTOM/bin/TOOLKIT/o  
bj/sun5/AA/tytoty.o  
"tytoty.c", line 265: warning: statement not reached
```

The following shift/reduce warning is inconsequential

```
yacc -d utparse.y
```

"PGS\_MET\_Write.c", line 491: warning: statement not reached

HP:

```
cc: test_sdmms(): warning 6062: Optdriver: Exceeding compiler resource limits  
in test_sdmms; som  
e optimizations skipped. Use +Onolimit if override desired. (6062)  
cc: test_conv(): warning 6062: Optdriver: Exceeding compiler resource limits in  
test_conv; some  
optimizations skipped. Use +Onolimit if override desired. (6062)cc:  
test_chunks(): warning 6062: Optdriver: Exceeding compiler resource limits in  
test_chunks; s  
ome optimizations skipped. Use +Onolimit if override desired. (6062)
```

cpp: "stdsyms.h", line 12: warning 2001: Redefinition of macro  
\_INCLUDE\_POSIX\_SOURCE

```
cc: "vpfprim2.c", line 44: warning 562: Redeclaration of "row_offset" with a  
different storage c  
lass: "row_offset" will have static storage duration.
```

```
cc: db_events(): warning 6062: Optdriver: Exceeding compiler resource limits in  
db_events; some  
optimizations skipped. Use +Onolimit if override desired. (6062)  
cc: "error.c", line 711: warning 562: Redeclaration of "error_bin_search" with  
a different stora
```

ge class: "error\_bin\_search" will have static storage duration.

cc: line 854: warning 5004: Uninitialized variable "initializeInfo" in function "PGS\_DEM\_Subset"

(5004)

cc: line 854: warning 5004: Uninitialized variable "getInfo" in function "PGS\_DEM\_Subset" (5004)

cc: line 829: warning 5004: Uninitialized variable "date\_time\_Ptr" in function "PGS\_MET\_GetPCAtt  
r" (5004)

IBM:

The following shift/reduce warning is inconsequential

yacc -d utparse.y

DEC:

The following shift/reduce warning is inconsequential

yacc -d utparse.y

SGI:

cc -I .-ansi -64 -mips4 -O -s -I ./jpeg -I ./zlib -c hfile.c

"hfile.c", line 393: warning(1188): type qualifier is meaningless on cast type

    if (HP\_write(file\_rec, (const VOIDP)HDFMAGIC, MAGICLEN) ==  
FAIL)

    ^

"hfile.c", line 1938: warning(1188): type qualifier is meaningless on cast type

    if ((ret\_value = Hwrite(access\_id, length, (const VOIDP) data)) == FAIL)

    ^

"hfile.c", line 2721: warning(1048): cast between pointer-to-object and  
pointer-to-function

    if(HDGLadd\_to\_list(\*cleanup\_list,(VOIDP)term\_func)==FAIL)

    ^

"hfile.c", line 2770: warning(1048): cast between pointer-to-object and  
pointer-to-function

    if((term\_func=(hdf\_termfunc\_t)HDGLfirst\_in\_list(\*cleanup\_list))!=NULL)

"hfile.c", line 2774: warning(1048): cast between pointer-to-object and  
pointer-to-function

    }

    while((term\_func=(hdf\_termfunc\_t)HDGLnext\_in\_list(\*cleanup\_list))!

"hchunks.c", line 2819: warning(1188): type qualifier is meaningless on cast type  
"mfan.c", line 1340: warning(1188): type qualifier is meaningless on cast type  
if ((int32) FAIL == Hwrite(aid, ann\_len, (const VOIDP)ann))

"dff.c", line 115: warning(1412): destination type of cast is too small to hold all pointers: truncation possible  
ret = (int32) DFopen(fn, (intn) \*acc\_mode, (intn) \*defdds);

"string.c", line 19: warning(1188): type qualifier is meaningless on cast type  
HDmemcpy((VOIDP)&temp,(const VOIDP)str,sizeof(uint32));  
^

"string.c", line 27: warning(1188): type qualifier is meaningless on cast type  
HDmemcpy((VOIDP)&temp,(const VOIDP)str,count);

jackets.c", line 1137: warning(1185): enumerated type mixed with another type  
tmpbasis = nctypelen(datatype);  
^

"jackets.c", line 1252: warning(1185): enumerated type mixed with another type  
tmpbasis = nctypelen(datatype);  
^

"jackets.c", line 1605: warning(1185): enumerated type mixed with another type  
tmpbasis = nctypelen(datatype);  
^

"jackets.c", line 1744: warning(1185): enumerated type mixed with another type  
tmpbasis = nctypelen(datatype);

"vardata.c", line 556: warning(1185): enumerated type mixed with another type  
lastrow = (ir == nrows-1);

dumplib.c", line 171: warning(1116): non-void function "get\_fmt" (declared at line 143) should return a value

ld64: WARNING 84: ../../hdf/jpeg/libjpeg.a is not used for resolving any symbol.  
/

"ncgen.l", line 41: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 43: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 44: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 45: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 46: warning(1110): statement is unreachable  
/  
...skipping  
^

"ncgen.l", line 47: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 48: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 50: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 52: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 53: warning(1110): statement is unreachable  
break;

```
^  
/  
"ncgen.l", line 54: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 67: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 72: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 77: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 83: warning(1110): statement is unreachable  
break;  
ncgen.l", line 94: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 101: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 108: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 155: warning(1110): statement is unreachable  
break;  
^  
  
"ncgen.l", line 170: warning(1110): statement is unreachable  
break;  
^
```

"ncgen.l", line 174: warning(1110): statement is unreachable  
/  
...skipping  
^

"ncgen.l", line 178: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 182: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 199: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 203: warning(1110): statement is unreachable  
break;  
^

"ncgen.l", line 1194: warning(1167): pointer points outside of underlying  
object  
yycrank+-1, 0, 0,  
^

"ncgen.l", line 1195: warning(1167): pointer points outside of underlying  
object  
yycrank+-66, yysvec+1, 0,  
^

"ncgen.l", line 1199: warning(1167): pointer points outside of underlying  
object  
yycrank+-144, 0, yyvstop+8,  
^

"ncgen.l", line 1200: warning(1167): pointer points outside of underlying  
object  
yycrank+-185, 0, yyvstop+10,  
^

```
"ncgen.l", line 1234: warning(1167): pointer points outside of underlying
object
yycrank+-3, yysvec+6,    0,
^
/
"ncgen.l", line 1236: warning(1167): pointer points outside of underlying
object
yycrank+-480, 0,        0,
^

"ncgen.l", line 1245: warning(1167): pointer points outside of underlying
object
yycrank+-598, 0,        yyvstop+111,
^

"ncgen.l", line 1392: warning(1167): pointer points outside of underlying
object
yycrank+-1028, 0,       yyvstop+401,
^

"ncgen.l", line 1403: warning(1167): pointer points outside of underlying
object
yycrank+-1038, yysvec+199, yyvstop+423,
^

"ncgen.l", line 1404: warning(1167): pointer points outside of underlying
object
yycrank+-283, yysvec+199, yyvstop+425,
^

"ncgen.y", line 690: warning(1116): non-void function "yyerror" (declared at
line 686) should return a value
}

^

"ncgen.y", line 1167: warning(1177): argument is incompatible with formal
parameter
yyerror( gettxt("uxlibc:80", "Yacc stack
overflo
```

```
w" ) );  
      ^  
  
"negen.y", line 1299: warning(1177): argument is incompatible with formal  
parameter  
    yyerror( gettxt("uxlibc:81", "Syntax error") );  
  
"set.c", line 574: warning(1069): integer conversion resulted in truncation  
    if (!set.size) return MAXLONG;  
      ^  
  
"set.c", line 588: warning(1069): integer conversion resulted in truncation  
    if (element > set.size) return MAXLONG;  
      ^  
  
"set.c", line 591: warning(1069): integer conversion resulted in truncation  
    return MAXLONG;  
      ^  
  
"set.c", line 643: warning(1069): integer conversion resulted in truncation  
    if (!set.size) return -MAXLONG;  
      ^  
  
"set.c", line 656: warning(1069): integer conversion resulted in truncation  
    if (byt enum < 0) return -MAXLONG;  
      ^  
/  
"set.c", line 664: warning(1069): integer conversion resulted in truncation  
    return -MAXLONG;  
  
"vpfprim2.c", line 44: warning(1169): external/internal linkage conflict with  
    previous declaration  
  
"vpfrelat.c", line 873: warning(1185): enumerated type mixed with another type  
    fcrel.table[i] = vpf_open_table(path,storage,"rb",NULL);  
      ^  
  
"vpfrelat.c", line 888: warning(1185): enumerated type mixed with another type  
    fcrel.table[i] = vpf_open_table(path,storage,"rb",NULL);
```

```
"vpftable.c", line 509: warning(1069): integer conversion resulted in
truncation
table->header[i].nullval.Int = NULLINT ;

"vpftable.c", line 658: warning(1185): enumerated type mixed with another type
table->xstorage = 0;
^

"vpftable.c", line 665: warning(1185): enumerated type mixed with another type
table->storage = 0;
^

"vpftable.c", line 666: warning(1185): enumerated type mixed with another type
table->mode = 0;
^

"vpftable.c", line 948: warning(1185): enumerated type mixed with another type
table.xstorage = COMPUTE;
^

"vpftable.c", line 953: warning(1185): enumerated type mixed with another type
table.xstorage = DISK;
^

"vpftable.c", line 1002: warning(1185): enumerated type mixed with another type
/
...skipping
^

"vpftable.c", line 1020: warning(1185): enumerated type mixed with another type
table.xstorage = DISK;
^

"vpftable.c", line 1026: warning(1185): enumerated type mixed with another type
table.xstorage = DISK;
^

"vpftable.c", line 1032: warning(1185): enumerated type mixed with another type
table.storage = DISK;
^
```

"vpftable.c", line 1047: warning(1185): enumerated type mixed with another type  
table.storage = RAM;

"vpftidx.c", line 2299: warning(1172): subscript out of range  
h->vpf\_column\_name[25] = '\0';

"vpfwrite.c", line 785: warning(1069): integer conversion resulted in  
truncation  
    iptr[i] = NULLINT;  
                ^

"vpfwrite.c", line 1208: warning(1069): integer conversion resulted in  
truncation  
    lval = NULLINT;  
                ^

"vpfwrite.c", line 1261: warning(1069): integer conversion resulted in  
truncation

"vpfread.c", line 1759: warning(1069): integer conversion resulted in  
truncation  
int count, lval=NULLINT, \*lptr;  
                ^

"vpfread.c", line 1787: warning(1069): integer conversion resulted in  
truncation  
if (lval == NULLSHORT) lval = NULLINT;  
                ^

"vpfread.c", line 1799: warning(1069): integer conversion resulted in  
truncation  
    lval = NULLINT;  
                ^

"vpfread.c", line 1813: warning(1069): integer conversion resulted in  
truncation

"vpfread.c", line 1837: warning(1069): integer conversion resulted in  
truncation  
    lval = NULLINT;

^

"vpfread.c", line 1855: warning(1069): integer conversion resulted in  
truncation  
    lval = NULLINT;

"vvmisc.c", line 263: warning(1110): statement is unreachable  
    break;  
    ^

"vvmisc.c", line 270: warning(1110): statement is unreachable  
/  
...skipping  
    ^

"vvmisc.c", line 277: warning(1110): statement is unreachable  
    break;  
    ^

"vvmisc.c", line 284: warning(1110): statement is unreachable  
    break;  
    ^

"vvmisc.c", line 294: warning(1110): statement is unreachable  
    break;  
    ^

"vvmisc.c", line 297: warning(1110): statement is unreachable  
    break;"eval\_eqn.c", line 1053: warning(1116): non-void function  
"ee\_get\_prev\_num"  
    (declared at line 1043) should return a value  
}

"eval\_eqn.c", line 1130: warning(1116): non-void function  
    "ee\_get\_next\_term\_len" (declared at line 1114) should return a value  
}

"eval\_eqn.c", line 1172: warning(1116): non-void function

"ee\_extract\_next\_term" (declared at line 1154) should return a value  
}  
^

"eval\_eqn.c", line 1887: warning(1116): non-void function "ee\_get\_num\_len"  
"file2buf.c", line 159: warning(1001): last line of file ends without a newline

"formlist.c", line 510: warning(1110): statement is unreachable  
    break;

"get\_doub.c", line 130: warning(1110): statement is unreachable  
    break; /\* End of ASCII and DBASE cases \*/  
    ^

"get\_doub.c", line 177: warning(1110): statement is unreachable  
    break;

getcount.c", line 115: warning(1110): statement is unreachable  
    break;"makeform.c", line 165: warning(1185): enumerated  
type mixed with another type  
    return(find\_eol(text\_line) ? FALSE : TRUE);  
    ^

"makeform.c", line 747: warning(1185): enumerated type mixed with another type  
    sect\_type = !LAST\_SECT;  
mkstdbin.c", line 999: warning(1001): last line of file ends without a newline  
}  
^

"name\_tab.c", line 483: warning(1110): statement is unreachable  
    break;  
    ^

"name\_tab.c", line 652: warning(1110): statement is unreachable  
    break;

"set\_var.c", line 215: warning(1110): statement is unreachable  
    break;

"setdbin.c", line 2276: warning(1110): statement is unreachable  
    break;

```
"setdbin.c": Warning: Olimit was exceeded on function db_set; to override use
-O
PT:Olimit=2395
"setdbin.c": Warning: Function db_set (#6) was not optimized
"setdbin.c": Warning: To override Olimit for all functions in file, use
-OPT:Oli
mit=2395
skiphead.c", line 73: warning(1116): non-void function "ff_skip_header"
(declared at line 47) should return a value

str2bin.c", line 176: warning(1110): statement is unreachable
    break;

"tytovy.c", line 145: warning(1110): statement is unreachable
    break;
^

"tytovy.c", line 225: warning(1110): statement is unreachable
    break;
^

"tytovy.c", line 265: warning(1182): dynamic initialization in unreachable code
    size_t type_size = ffv_type_size(FFV_DATA_TYPE(type));
^

"tytovy.c", line 302: warning(1110): statement is unreachable
    break;
^

"tytovy.c", line 260: warning(1548): transfer of control bypasses
lexan.c", line 148: warning(1110): statement is unreachable
    break;
^

"lexan.c", line 153: warning(1110): statement is unreachable
    break;
^
/
"lexan.c", line 158: warning(1110): statement is unreachable
```

break;

^

"lexan.c", line 163: warning(1110): statement is unreachable

break;

^

"lexan.c", line 169: warning(1110): statement is unreachable

break;

^

"lexan.c", line 174: warning(1110): statement is unreachable

break;

^

"lexan.c", line 180: warning(1110): statement is unreachable

break;

^

"lexan.c", line 187: warning(1110): statement is unreachable

break;

^

"lexan.c", line 194: warning(1110): statement is unreachable

break;

^

"lexan.c", line 204: warning(1110): statement is unreachable

break;

^

"lexan.c", line 213: warning(1110): statement is unreachable

break;

^

"lexan.c", line 220: warning(1110): statement is unreachable

break;

^

"lexan.c", line 227: warning(1110): statement is unreachable

"lexan.c", line 234: warning(1110): statement is unreachable

break;

^

"lexan.c", line 241: warning(1110): statement is unreachable

break;

^

"lexan.c", line 248: warning(1110): statement is unreachable

break;

^

"lexan.c", line 255: warning(1110): statement is unreachable

break;

^

"lexan.c", line 262: warning(1110): statement is unreachable

break;

^

/

"lexan.c", line 269: warning(1110): statement is unreachable

break;

^

"lexan.c", line 277: warning(1110): statement is unreachable

break;

^

"lexan.c", line 285: warning(1110): statement is unreachable

break;

^

"lexan.c", line 290: warning(1110): statement is unreachable

break;

^

"lexan.c", line 295: warning(1110): statement is unreachable

break;

^

"lexan.c", line 300: warning(1110): statement is unreachable

break;

^

"lexan.c", line 305: warning(1110): statement is unreachable

break;

^

"lexan.c", line 310: warning(1110): statement is unreachable

break;

"lexan.c", line 315: warning(1110): statement is unreachable

break;

^

"lexan.c", line 320: warning(1110): statement is unreachable

break;

^

"lexan.c", line 325: warning(1110): statement is unreachable

break;

^

"lexan.c", line 330: warning(1110): statement is unreachable

break;

^

"lexan.c", line 335: warning(1110): statement is unreachable

break;

^

"lexan.c", line 340: warning(1110): statement is unreachable

break;

^

"lexan.c", line 345: warning(1110): statement is unreachable

break;

^

"lexan.c", line 350: warning(1110): statement is unreachable  
break;  
^

"lexan.c", line 374: warning(1110): statement is unreachable  
break;  
^

"lexan.c", line 641: warning(1116): non-void function "ODLNewString"  
(declared  
at line 631) should return a value  
}  
^

"lexan.c", line 1811: warning(1167): pointer points outside of underlying  
object  
yycrank+-1, 0,  
^

"lexan.c", line 1812: warning(1167): pointer points outside of underlying  
object  
yycrank+-56, yysvec+1, 0,  
^

"lexan.c", line 1818: warning(1167): pointer points outside of underlying  
object  
yycrank+-98, 0, yyvstop+14,  
^

"lexan.c", line 1843: warning(1167): pointer points outside of underlying  
object  
yycrank+-2, yysvec+8, 0,  
^

"lexan.c", line 1850: warning(1167): pointer points outside of underlying  
object  
yycrank+-307, 0, yyvstop+99,

"lexan.c", line 1867: warning(1167): pointer points outside of underlying  
object

```

yycrank+-597, 0,           yyvstop+118,
^

"lexan.c", line 1885: warning(1167): pointer points outside of underlying
object
yycrank+-945, 0,           yyvstop+147,
^

"lexan.c", line 2047: warning(1412): destination type of cast is too small to
hold all pointers: truncation possible
if ( (int)yyt > (int)yycrank){
^

"lexan.c", line 2047: warning(1412): destination type of cast is too small to
hold all pointers: truncation possible
if ( (int)yyt > (int)yycrank){
^
/
"lexan.c", line 2047: warning(1069): integer conversion resulted in truncation
if ( (int)yyt > (int)yycrank){
^

"lexan.c", line 2057: warning(1412): destination type of cast is too small to
hold all pointers: truncation possible
else if((int)yyt < (int)yycrank) {          /* r <
y
yycrank */
^

"lexan.c", line 2057: warning(1412): destination type of cast is too small to
hold all pointers: truncation possible
else if((int)yyt < (int)yycrank) {          /* r <
y
yycrank */
^

"lexan.c", line 2057: warning(1069): integer conversion resulted in truncation
else if((int)yyt < (int)yycrank) {          /* r <
y
yycrank */

```

```
^
/
"lexan.c", line 2167: warning(1116): non-void function "yyoutput" (declared at
line 2164) should return a value
}

^

"lexan.c", line 2171: warning(1116): non-void function "yyunput" (declared at
line 2168) should return a value
} "odl2.y", line 322: warning(1116): non-void function "yyerror"
(declared at
/
...skipping
^

"odl2.y", line 107: warning(1110): statement is unreachable
} break;
^

"odl2.y", line 136: warning(1110): statement is unreachable
} break;

"utlib.fc", line 178: warning(1233): explicit type is missing ("int" assumed)
register y;
^

"utlib.fc", line 179: warning(1233): explicit type is missing ("int" assumed)
register d;
^

"utlib.fc", line 180: warning(1233): explicit type is missing ("int" assumed)
register m;
^

"utlib.fc", line 359: warning(1233): explicit type is missing ("int" assumed)
register iquan;
^

"utlib.fc", line 908: warning(1177): argument is incompatible with formal
parameter
```

```

if ((status = ScanUnit(name, sizeof(name), &unit,
                      ^
"utlib.fc", line 1078: warning(1233): explicit type is missing ("int" assumed)
register      iquan;
                      ^
"utlib.fc", line 1207: warning(1233): explicit type is missing ("int" assumed)
register      status = name1[0] - name2[0]; /* quick comparison */
                      ^
"utlib.fc", line 1241: warning(1233): explicit type is missing ("int" assumed)
register      status = name1[0] - name2[0];
                      ^
"utlib.fc", line 1454: warning(1233): explicit type is missing ("int" assumed)
register      status;
"utlib.fc", line 1560: warning(1233): explicit type is missing ("int" assumed)
register      iquan;
                      ^
"utlib.fc", line 1667: warning(1177): argument is incompatible with formal
parameter
      minute, second, 1);
                      ^
"utlib.fc", line 1820: warning(1233): explicit type is missing ("int" assumed)
register i;
                      ^

```

The following shift/reduce warning is inconsequential  
`yacc -d utparse.y`

conflicts: 5 shift/reduce  
`sed '/extern *char *\*malloc(), *\*realloc();/d' < y.tab.c >`  
`utparse_sgi`

"utparse.y", line 61: warning(1110): statement is unreachable  
`} break;`

^

"utparse.y", line 65: warning(1110): statement is unreachable  
    } break;  
          ^

"utparse.y", line 70: warning(1110): statement is unreachable

"utscan.l", line 47: warning(1110): statement is unreachable  
break;  
  ^

"utscan.l", line 52: warning(1110): statement is unreachable  
/  
...skipping  
  ^

"utscan.l", line 57: warning(1110): statement is unreachable  
break;  
  ^

"utscan.l", line 62: warning(1110): statement is unreachable  
break;  
  ^

"utscan.l", line 74: warning(1110): statement is unreachable  
break;  
  ^

"utscan.l", line 96: warning(1110): statement is unreachable  
break;  
  ^

"utscan.l", line 108: warning(1110): statement is unreachable  
break;  
  ^  
/  
"utscan.l", line 121: warning(1110): statement is unreachable  
break;

^

"utscan.l", line 134: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 144: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 158: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 169: warning(1110): statement is unreachable

"utscan.l", line 186: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 197: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 213: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 229: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 234: warning(1110): statement is unreachable  
break;  
^

"utscan.l", line 238: warning(1110): statement is unreachable  
/  
...skipping  
^

"utscan.l", line 1182: warning(1167): pointer points outside of underlying  
object

yy\_crank+-1, 0,  
  ^

"utscan.l", line 1183: warning(1167): pointer points outside of underlying  
object

yy\_crank+-92, yy\_svec+1, 0,  
  ^

"utscan.l", line 1184: warning(1167): pointer points outside of underlying  
object

yy\_crank+-183, yy\_svec+1, 0,  
  ^

"utscan.l", line 1185: warning(1167): pointer points outside of underlying  
object

yy\_crank+-274, yy\_svec+1, 0,  
  ^

/

"utscan.l", line 1186: warning(1167): pointer points outside of underlying  
object

yy\_crank+-365, yy\_svec+1, 0,  
  ^

"utscan.l", line 1187: warning(1167): pointer points outside of underlying  
object

yy\_crank+-456, yy\_svec+1, 0,  
  ^

"utscan.l", line 1188: warning(1167): pointer points outside of underlyin  
object

yy\_crank+-547, yy\_svec+1, 0,  
  ^

"utscan.l", line 1189: warning(1167): pointer points outside of underlying  
object

yy\_crank+-638, yy\_svec+1, 0,  
  ^

"utscan.l", line 1192: warning(1167): pointer points outside of underlying  
object

yy\_crank+-766, 0, yy\_vstop+6,  
^

"utscan.l", line 1241: warning(1167): pointer points outside of underlying  
object

yy\_crank+-19, yy\_svec+11, yy\_vstop+124,

"report.c", line 132: warning(1116): non-void function "close\_file" (declared  
at line 126) should return a value

}

^

"report.c", line 146: warning(1116): non-void function "ptitle" (declared at  
line 136) should return a value

}

^

"report.c", line 158: warning(1116): non-void function "radius" (declared at  
line 148) should return a value

}

"report.c", line 174: warning(1116): non-void function "radius2" (declared at  
line 160) should return a value

}

^

"report.c", line 186: warning(1116): non-void function "cenlon" (declared at  
line 176) should return a value

}

^

"report.c", line 198: warning(1116): non-void function "cenlonmer" (declared  
at line 188) should return a value

}

^

"report.c", line 210: warning(1116): non-void function "cenlat" (declared at  
line 200) should return a value

}

^

"report.c", line 222: warning(1116): non-void function "origin" (declared at

/

...skipping

^

"report.c", line 237: warning(1116): non-void function "stanparl" (declared at

line 223) should return a value

}

^

"report.c", line 251: warning(1116): non-void function "stparl1" (declared at

line 239) should return a value

}

^

"report.c", line 267: warning(1116): non-void function "offsetp" (declared at

line 253) should return a value

}

^

"report.c", line 279: warning(1116): non-void function "genrpt" (declared at

line 269) should return a value

/

"report.c", line 290: warning(1116): non-void function "genrpt\_long" (declared  
at line 280) should return a value

}

^

"report.c", line 301: warning(1116): non-void function "pblank" (declared at

line 291) should return a value

}

^

"report.c", line 317: warning(1116): non-void function "p\_error" (declared at

line 305) should return a value

somfor.c", line 263: warning(1116): non-void function "som\_series" (declared  
at line 245) should return a value

```

"sominv.c", line 242: warning(1116): non-void function "som_series" (declared
    at line 224) should return a value
"PGS_MET_SearchAttr.c", line 447: warning(1116): non-void function
    "PGS_MET_SearchAttr" (declared at line 105) should return a value
"PGS_MET_Write.c", line 491: warning(1110): statement is unreachable
    retVal = PGSMET_E_MET_ASCII_ERR;
"PGS_PC_PutInArea.c", line 212: warning(1412): destination type of cast is too
    small to hold all pointers: truncation possible
    logicalID = (PGSt_PC_Logical) PCS_data;
"PGS_PC_PutDataInShm.c", line 273: warning(1412): destination type of cast is
    too small to hold all pointers: truncation possible
    logicalID = (PGSt_PC_Logical) PCS_data;

"PGS_PC_GetFileByAttrF.c", line 245: warning(1048): cast between
    pointer-to-object and pointer-to-function
    searchFunc = (PGSt_integer (*)(char*)) searchFuncF;

```

**ID:** **ECSed01037**

**Tool:** toolkit 5

**Title:** Some requirements are partially met or deferred

**Severity:** 5

**Description:** Some of the requirements for the SDP Toolkit have been partially met in TK5 or deferred for later implementation. For details on the implementation of these requirements, please see both Appendix A and explanatory text in the body of the SDP Toolkit Requirements Specification for the ECS Project July 1995 (revised edition). Implementation of these requirements will occur in the sustaining engineering phase of toolkit development following the Toolkit 5 delivery. The reasons for the partial implementation of these requirements include: lack of definition of level 0 formats, non availability of data sets and no known requirement for some toolkit features prior to instruments that fly on EOS-PM or later.

As of the Release B.0 SCF Toolkit 5.2 delivery April 1997, the only requirement not satisfied is PGSTK-0820, which asks for star positions. This capability is only needed by SOLSTICE, an instrument scheduled for launch in 2003. Implementation of this requirement has been deferred.

**ID:** **ECSed06154**

**Tool:** PGS\_DEM\_GetQualityData

**Title:** PGS\_DEM\_GetQualityData not available for SCF B.0 Toolkit 5.2

**Severity:** 5

**Description:** PGS\_DEM\_GetQualityData is not available for the present release. Have not received Source, Quality or Geoid data from EDC (the data producer). Not able to verify exact format, data type, and structure of quality and source data.

**ID:** **ECSed06151**  
**Tool:** PGS\_DEM  
**Title:** DEM bilinear interpolation not available in SCF B.0 TOOLKIT5.2  
**Severity:** 5  
**Description:** DEM Tools presently will not support bilinear interpolation. Awaiting feed-back from instrument teams about particular algorithm to deal with following technical problems:

- 1.) the issue of weighting pixels from 3 arc resolution versus data pixels from 30 arc resolution.
- 2.) the number of pixels to iterate before progressing to the next, lower resolution data pixels.
- 3.) boundary problems at the edge of large fill value section and at the geographic extent of the world.

This will be added with the next release.

**ID:** **ECSed06176**  
**Tool:** AA tools  
**Title:** The AA tool dcw is returning diff. values on the 64 bit version  
**Severity:** 3  
**Description:** The AA dcw driver is having differences on the 64 bit version. All the other platforms are okay.

**ID:** **ECSed06191**  
**Tool:** IO tools  
**Title:** On new32bit f90 getting a bus error for the IO tools  
**Severity:** 3  
**Description:** On the new32bit f90 version only getting a bus error for the IO\_Driver. It is running input file 2 through the PGS\_Perm\_IO\_Driver\_f90

Analysis: Many hours of investigation have yielded: changing the declaration in the TEST DRIVER:

character\*240 msg to character\*340 "fixes" the problem.

The core dump that is occurring is not occurring in the toolkit. The variable msg is passed to the toolkit through the function PGS\_SMF\_GetMsg(), HOWEVER, commenting out this function call does not affect the core dump situation. Changing the size of msg STILL does "fix" the problem, even though this variable is never actually accessed and is only printed out (in this case the variable was initialized to a small string at the beginning of the program).

By inserting FORTRAN write statements throughout the test driver code, it was determined that the code was core dumping just before or just after the FORTRAN "end" statement at the end of the main program.

The core dump spot moved around as different write statement were added, however.

Also non-ASCII characters are being written to the output file generated by the test driver.

Also the test driver is failing when running test case 1 through it as well, although it doesn't seem to be core dumping, it just quits execution. This may be related to the problems with this (test case 2) since some output from test case 1 seems to be the input for test case 2.

**ID:** **ECSel06175**

**Tool:** GCT tools

**Title:** GCT is having minor differences on the 64bit version

**Severity:** 3

**Description:** On the 64bit version (f77 and f90) differences are appearing for the GCT tools in the proj operation.

SAMPLE

--Toolkit Input Parameters--

Operation : proj

Projection Id : PGSD\_SPCS (2)

Direction : PGSD\_GCT\_INVERSE (1)

Number of Points : 2

X-coordinate # 1 : -153211.886

Y-coordinate # 1 : -51198.726

X-coordinate # 2 : 88401.565

Y-coordinate # 2 : 188.977

--Toolkit Return Values--

Toolkit return value: 0

PGS\_S\_SUCCESS: SUCCESSFUL operation

Longitude # 1 : -1.5533430343

Latitude # 1 : 0.5235987756

Longitude # 2 : -1.5097098030

Latitude # 2 : 0.5323254219

--Toolkit Input Parameters--

Operation : proj

Projection Id : PGSD\_SPCS (2)

Direction : PGSD\_GCT\_INVERSE (1)

Number of Points : 2

X-coordinate # 1 : -153211.886

Y-coordinate # 1 : -51198.726

X-coordinate # 2 : 88401.565

Y-coordinate # 2 : 188.977

ACTUAL

--Toolkit Return Values--

Toolkit return value: 0  
 PGS\_S\_SUCCESS: SUCCESSFUL operation  
 Longitude # 1 : -0.1999999998  
 Latitude # 1 : 0.5999999998  
 Longitude # 2 : 0.3000000001  
 Latitude # 2 : 1.0999999997  
 Analysis: On the SGI, in 64 bit mode, the size of the C type "long" is 8 bytes. The underlying gctpc source code uses this type to read binary data from a file on disk, but makes the ASSUMPTION that a "long" is 4 bytes. The data in the file is 4 byte data.  
 Therefore the code is currently reading 4 byte data as 8 byte data, which means it is most likely reading two 4-byte data points as a single 8-byte datum point and interpreting this as a single value, hence the non-sensical values that are being returned.

**ID:** ECSed06194  
**Tool:** L0 tools (SGI compiler problem)  
**Title:** Very minor differences in the L0 drivers on the Power Challenge  
**Severity:** 4  
**Description:** On the Power Challenge getting minor differences in the L0 drivers. Output from difference files more \*.diff  

```

:::::::::::  

PGS_IO_L0_Driver_c.diff  

:::::::::::  

1c1  

< Machine Name - spre1sgi  

---  

> Machine Name - lasher  

4c4  

< *****----- PGS_IO_L0_Driver_c.out.May_15_07:42:11_1996 -----*****  

---  

> *****----- PGS_IO_L0_Driver_c.out.Apr_19_12:50:42_1997 -----*****  

7c7  

< Start Date/Time: Wed May 15 07:42:11 1996  

---  

> Start Date/Time: Sat Apr 19 12:50:42 1997  

701c701  

< Packet Time : 31536007.600000 (1994-01-01T00:00:06.600000Z)  

---  

> Packet Time : 31536006.600000 (1994-01-01T00:00:05.600000Z)  

742c742  

< Packet Time : 31622005.600000 (1994-01-01T23:53:24.600000Z)

```

```
---
> Packet Time : 31622004.600000 (1994-01-01T23:53:23.600000Z)
1061c1061
< End Date/Time: Wed May 15 07:42:12 1996
---
> End Date/Time: Sat Apr 19 12:50:42 1997
::::::::::
PGS_IO_L0_Driver_f77.diff
::::::::::
497c497
<           Packet Number: 1430
---
>           Packet Number: 1174
656c656
<           Packet Number: 1430
---
>           Packet Number: 1174
701c701
<           Packet Time: 31536007.600000 ( 1994-01-01T00:00:06.600000Z
)
---
>           Packet Time: 31536006.600000 ( 1994-01-01T00:00:05.600000Z
)
739,740c739,740
<           Packet Number: 13031
<           Packet Time: 31622005.600000 ( 1994-01-01T23:53:24.600000Z
)
---
>           Packet Number: 12775
>           Packet Time: 31622004.600000 ( 1994-01-01T23:53:23.600000Z
```

Analysis: This problem seems to be a problem with the SGI C language compiler (v 7.0). Tracing the problem down led to the function PGS\_TD\_TRMMtoTAI(). In this function an "unsigned int" variable is assigned (value-wise) to a "double" variable and the result is a negative (!?) value. This should not be possible. As of this writing, SGI is looking into the matter but recommending that we move to compiler version 7.1.

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## **Appendix A. Build/Installation Instructions**

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Build/installation instructions for Release B.0 Toolkit 5.2 are located in Section 5 of the Release B.0 SCF Toolkit Users Guide (333-CD-004-001), and the README file available with the Toolkit for delivery.

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## **Appendix B. Special Operating Instructions**

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The test drivers are provided "AS IS" without warranty of any kind. They are provided for example purposes only. The following disclaimer applies to the README files provided with the Test Drivers. These \*readme files have not been verified. They do, however, contain valid and useful information concerning the setting of environment variables and compile instructions. However, should there be any errors or discrepancies between the instructions contained in the \*README files and the Users Guide, the Users Guide should take precedence.

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## **Appendix C. System Limitations**

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None.

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## **Appendix D. User Feedback Procedures**

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Please refer to the Release B.0 SCF Toolkit Users Guide for a description of user feedback procedures.

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## **Appendix E. Public Software Disclaimer Notice**

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## **Appendix F. Test Baseline Configuration**

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Please refer to the Release B.0 SCF Toolkit Users Guide for a description of the Test Baseline Configuration.

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## Abbreviations and Acronyms

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A.A.	Astronomical Almanac
AA	Ancillary Data Access
AIRS	Atmospheric Infrared Sounder
API	Application Program Interface
APID	Application Process Identifier
ASTER	Advanced Spaceborne Thermal Emission and Reflection Radiometer
BNF	Bachus-Nauer Form
CBP	Celestial Body Position
CCR	Configuration Change Request
CCSDS	Consultative Committee on Space Data Systems
CDRL	Contract Deliverable Requirements List
CERES	Clouds and Earth Radiant Energy System
COTS	Commercial off-the-shelf Software
CSMS	Communications and Systems Management Segment (ECS)
CRC	Cyclic Redundancy Code
CSC	Coordinate System Conversion
CUC	Constant and Unit Conversions
DAAC	Distributed Active Archive Center
DCE	Distributed Computing Environment
DCN	Document Change Notice
DCW	Digital Chart World
DDF	Data Distribution Facility
DEM	Digital Elevation Model
DDTs	Distributed Defect Tracking system
DPFT	Data Processing Focus Team
DTM	Digital Terrain Model
ECI	Earth Centered Inertial

ECR	Earth Centered Rotating
ECS	EOSDIS Core System
EDHS	ECS Data Handling System
EDOS	EOS Data and Operations System
EOS	Earth Observing System
EOSAM	EOS AM Project (morning spacecraft series)
EOSDIS	EOS Data and Information System
EOSPM	EOS PM Project (afternoon spacecraft series)
EPH	Ephemeris Data Access
ESDIS	Earth Science Data and Information System
ET	Ephemeris Tool
FDF	Flight Dynamics Facility
FOV	Field-of-View
ftp	file transfer protocol
GAST	Greenwich Apparent Sidereal Time
GCT	Geo-Coordinate Transformation
GMST	Greenwich Mean Sidereal Time
GPS	Global Positioning System
GSFC	Goddard Space Flight Center
HAIS	Hughes Applied Information Systems
HDF	Hierarchical Data Format
HITC	Hughes Information Technology Company
http	hypertext transport protocol
I&T	Integration & Test
I/O	Input/Output
IEEE	Institute of Electrical and Electronic Engineers
IMS	Information Management System (ECS)
IWG	Investigator Working Group
JPL	Jet Propulsion Laboratory

LaRC	Langley Research Center
M&O	Maintaince and Operation
MCF	Metada Configuration File
MDUE	Missing Data Unit Entry
MEM	Memory Management
MET	Metadata
MODIS	Moderate-Resolution Imaging Spectroradiometer
MSFC	Marshall Space Flight Center
NASA	National Aeronautics and Space Administration
NCR	Nonconformance Report
NCSA	National Center for Supercomputer Applications
netCDF	network Common Data Format
NMC	National Meteorological Center
PACOR	Packet Processor
PC	Process Control
PGE	Product Generation Executive
PCF	Process Control File
PDS	Production Data Set
PDPS	Planning & Data Production System
PCF	Process Control File
PDR	Preliminary Design Review
PGE	Product Generation Executive (formerly Product Generation Executable)
PGS	Product Generation System (ECS)
PGSTK	Product Generation System Toolkit
POSIX	Portable Operating System Interface for Computer Environments
QA	Quality Assurance
QAC	Quality and Accounting Capsule
RDBMS	Relation Data Base Management System
RPC	Remote Procedure Calls

RRDB	Recommended Requirements Database
SCF	Science Computing Facility
SDP	Science Data Production
SES	Scheduling and Execution Subsystem
SDPS	Science Data Processing Segment
SDPF	Science Data Processing Facility
SGI	Silicon Graphics International
smf	Collection of utilities and library routines used for generating SMFs and manipulating SMF-defined status values and messages
SMF	Status Message File
SPSO	Science Processing Support Office
SSM/I	Special Sensor for Microwave Imaging
TAI	International Atomic Time
TBD	To Be Determined
TD	Time Date Conversion
TDB	Barycentric Dynamical Time
TDRSS	Tracking and Data Relay Satellite System
TDT	Terrestrial Dynamical Time
TLCF	Team Leader Computing Facility
TRMM	Tropical Rainfall Measuring Mission (joint US - Japan)
TSS	(TDRSS) Service Session
UARS	Upper Atmosphere Research Satellite
URL	Universal Research Locator
US	United States
USNO	U.S. Naval Observatory
UT	Universal Time
UTC	Universal Coordinated Time
UTCf	Universal Time Correlation Factor
UTM	Universal Transverse Mercator
VCDU	Virtual Channel Data Unit

VDD      Version Description Document

VPF      Vector Product Format

WWW      World Wide Web